

*Bureau*

INSTALLING *and* OPERATING  
INSTRUCTIONS

*for the*  
Style "F"  
Treatment Cabinet



H. G. FISCHER & CO., INC.

X-Ray and Physiotherapeutic Apparatus  
for the Physician and Dentist

2333-43 WABANSIA AVENUE, CHICAGO



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### *Foreword*

The contents of this booklet were compiled to assist the operator of the Style "F" Treatment Cabinet in obtaining the very best results possible with his equipment.

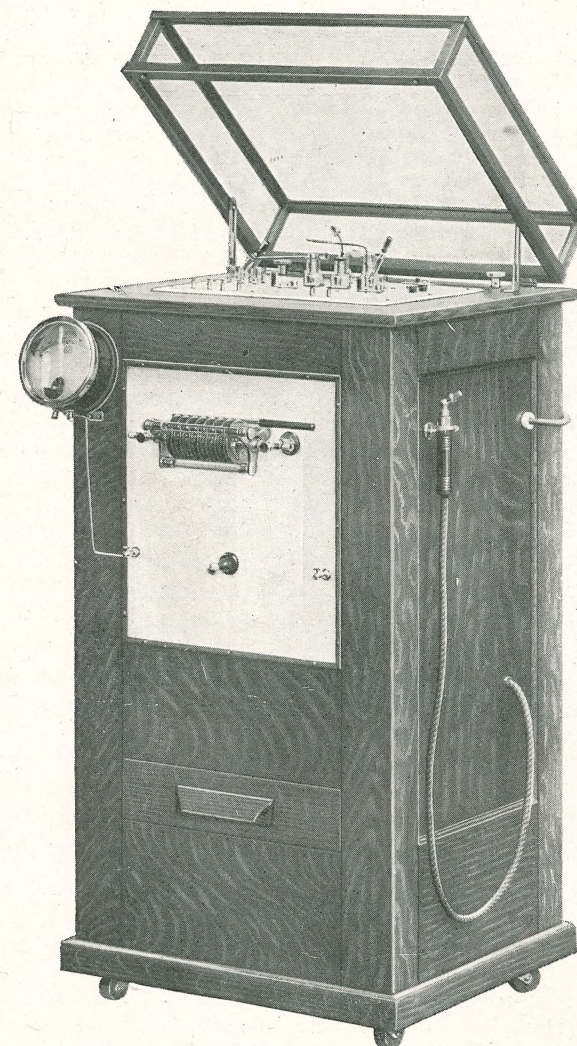
The treatment of disease by means of Electrical Currents, especially the High Frequency modalities, has now become as firmly established as with drugs or other methods, and to-day these currents are known and appreciated for their values.

The Style "F" Cabinet is a thoroughly efficient, complete, modern, result-producing appliance for the physician and surgeon. Diathermy, both Medical and Surgical, Electro-coagulation, Fulguration, d'Arsonval, Oudin, High Frequency, Ozone, Electric Cautery, Diagnostic and Sinusoidal Circuits, Tankless Compressed Air, Nebulizers, Fluid Heater, Air Heater, Vibrators and Bier's Hyperemia by Vacuum, each and every one a distinct modality with a field of usefulness of its own, are available, and attachments for their proper use are included with the Outfit.

The following instructions were carefully compiled for the Style "F" Apparatus, and, as extreme care was exercised in simplifying in every possible manner, with scattered suggestions throughout, you should be able to derive excellent results by observing them closely.

Please take sufficient time to read them carefully, and when in doubt kindly consult the proper page before registering complaint.

H. G. FISCHER & Co.



Catalog No. 517. Treatment Cabinet, Style "FO"



**Installing** Unpack the crate and box carefully, checking each item on the enclosed Packing List. Report any shortage, not marked as short on the sheet, to us at once, and same will receive prompt attention. In case of damages to parts, from any cause, while shipment was in the hand of the transportation companies, make sure that their representative goes over the consignment with you, obtain a signed report of the condition and forward it to us. This report is absolutely necessary to enable us to put in proper claim.

This Apparatus, unless plainly marked otherwise on the name-plate, is constructed to operate from the 60 Cycle Alternating Current Line of from 104 to 120 Volts, which Line must be capable of carrying 15 Amperes. Select a space for your Cabinet near an outlet from such wiring, and proceed with the assembling:

Open back of the Cabinet by removing the two nickel-plated acorn nuts and washers—entire back panel will lift out by pulling back and up at top.

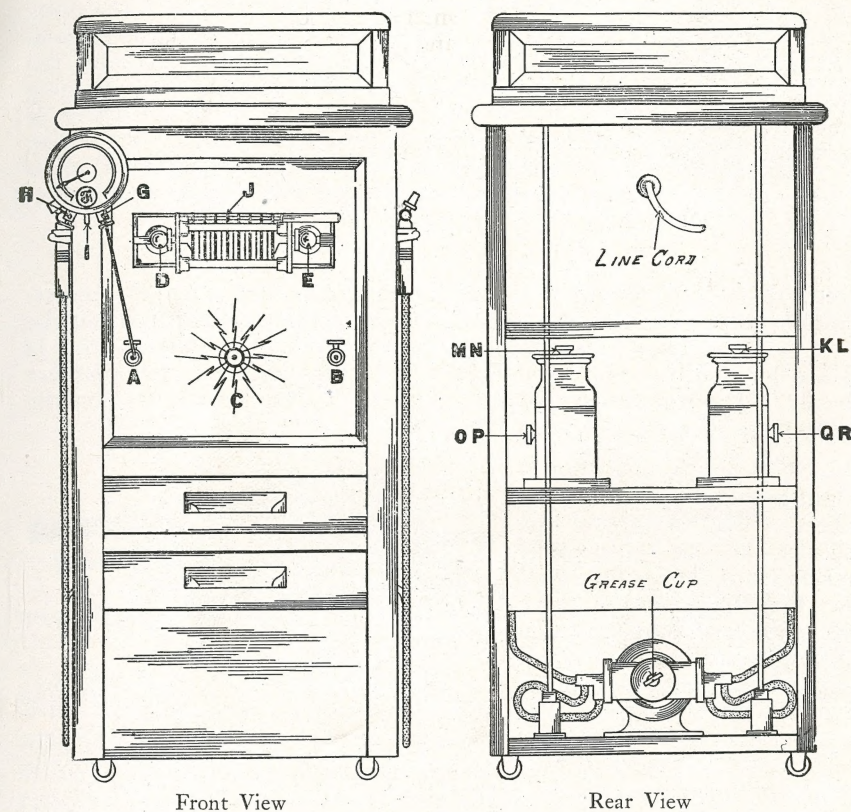
Remove the tops from the four leyden jars and after carefully cleaning the jars, fill them with a saturate solution of salt brine up to 1/16 of an inch above the level of the outer brass coating. (Use about 1/2 pound table salt to each jar.) The fluid should be poured in the jars to the level of the outer coating, and immersing the carbons in place will increase the levels to the desired point.

Carefully replace caps on the jars, wipe them thoroughly dry and set two on each side of the compartment in the small partitioned sections with metal bottoms. Connect the two wires "K-L" and "M-N" coming from the top of this compartment to the binding posts on the carbons in the caps. Then connect the two wires (bifurcated) leading from the front of the Cabinet to the posts on side of jars marked "O-P" and "Q-R".

Let the jars take any position within the partitioned spaces, but do not spill any liquid. Should any moisture be present around the jars, dry thoroughly before attempting to use the Machine.

This solution needs little attention, but should the water level fall to, or below the line of the brass outer coating on the jars, plain water should be added promptly to take the place of that which has been lost by evaporation. If, for any reason, the solution of one jar needs replenishing, or you replace a jar, it is important that *all* the jars be emptied and refilled with fresh brine as explained above, to insure a perfect balance of the condensers.

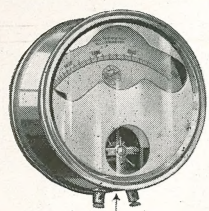
**Milliampere Meter** On the upper left-hand corner, when facing the front of the Cabinet, is mounted a nickel-plated support for the meter. Insert the two small tongues protruding from the meter back through the openings in this bracket, locking same tight with a downward pull. Connect the short nickel-plated wire to post "G" on meter and to "A" on the Cabinet.



#### Explanation of Lettering on Style "F" Cabinet Diagrams

- A — Diathermy—d'Arsonval Connection (for meter wire).
- B — Diathermy—d'Arsonval Connection.
- C — High Tension High Frequency Current Outlet.
- D — Multiple Spark Gap Support.
- E — Multiple Spark Gap Support.
- F — Multiple Spark Gap Slide Rod.
- G — Meter Binding Post Connection.
- H — Meter Binding Post Connection.
- I — Dial Adjusting Lever.
- J — Multiple Spark Gap.
- K, L, M, N — Top Leyden Jar Condenser Connections.
- O, P, Q, R — Side Leyden Jar Condenser Connections.



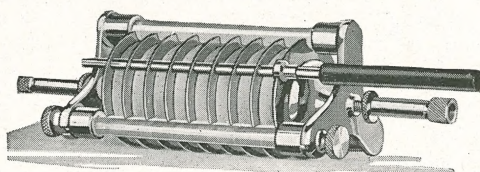


No. 450. M. A. Meter hence the regulation.

On the bottom of the meter, between the posts "H" and "G", set into the frame itself, is a small adjusting screw for the purpose of enabling the operator to move the needle back to zero. Turning same to left or right with a small screw driver or knife blade moves the needle independent of the dial. It is impossible to construct meters of this type so that the needle returns to absolute zero at all times;

**Multiple Spark Gap** This will be found in the same box with the meter. Unscrew the two rods from the extreme ends, and set the gap between the posts "D" and "E", holding same in place by inserting the rods through the posts and screwing together firmly. The rod with tapered hole in end should be mounted on the right when facing Cabinet, or Pressure side.

This gap is made up of eight sections, each drilled to allow a free passage of air, similar to an automobile muffler, and the air furnished by the pump in the Style "F" Cabinet base coursing through these sections will not only keep down the heat as generated by the spark points, but remove the otherwise obstructive nitrous gas as well. A clean spark gap means higher milliamperage, and a more steady current. This gap will produce unceasingly for weeks at a time, whereas others, without the air feature, need overhauling every few days.

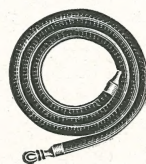


No. 432. Spark Gap

When operating the Cabinet to obtain Diathermy or Auto-condensation Currents, insert the tapered end of the pressure handle into the tapered hole in the spark gap support rod at "E"; set the indicator on the top of the Cabinet to "Pressure", see that the Valve in the pressure handle is open, and start the motor. The slide rod should be pushed all the way in to the last section of the gap before starting, to insure a minimum discharge—which can be increased at will.

Your Machine is now ready for operation.

**To Obtain High Frequency Current** Have lever "T" on button 1, and slide rod "F" all the way in. Connect the heavy insulated cable to post "C" and to the ring on the high frequency handle. Insert desired electrode in the handle.



No. 51. H. F. Cord

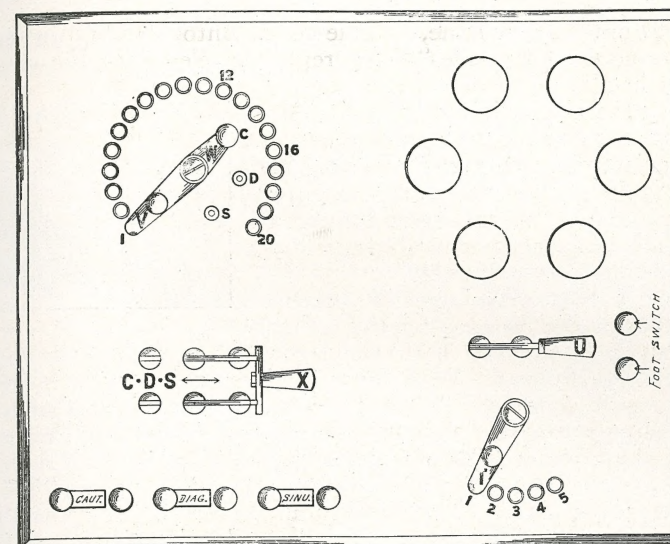
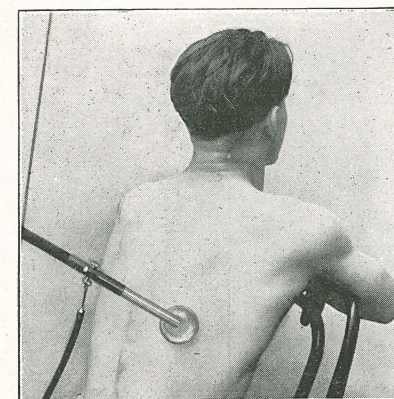
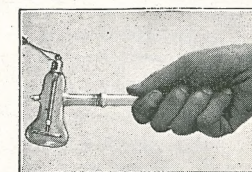


Diagram of Top of "F" Cabinet

Grasp the insulated end of the handle well away from the metal, close switch "U"; then throw switch "X" to the right. Withdraw the slide rod two or three gaps, depending on the amount of discharge desired.

If the current does not immediately pass through the electrode, producing the desired violet color, grip the electrode with the bare hand to warm it, or withdraw the slide rod a bit. When an electrode is what we might term "stubborn" and will not produce the proper effect when

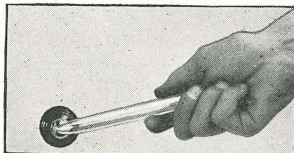


Application High Frequency



handled as above, shut off the machine, leave the controls untouched, remove the heavy cord from the pole "C" and remove the electrode from the handle.

Grasp the electrode firmly in the bare hand, close switch "X" to again start the current through the machine, touch the electrode to the post "C", and unless the tube is defective it will take the current. Then shut off the current, again connect the cord, handle and electrode as above, and you should have no further trouble.



When a greater volume of current is desired than would be used for the ordinary superficial case, advance both the lever "T" and the slide rod "F" alternately, as follows:—With lever "T" on point 1, it is not advisable to pull slide rod "F" out beyond the third or fourth gap. The discharge will be of a smoother character if the voltage (lever "T") is advanced gradually as the number of gaps is also increased, i. e., with "T" on 1, two or three gaps; "T" on 2, three or four gaps; "T" on 3, four or five gaps, and so on to maximum. Lever "T" controls a choke coil, not a rheostat, and is never to be advanced unless the current is first broken at either switch "U" or "X".

High Frequency treatments are indicated generally in Infectious Skin Diseases and Superficial Conditions, as well as Infections in the Orifices that can be reached with electrodes. High Frequency Currents as delivered through the glass electrodes:—

- Dilate the Blood Vessels,
- Increase the Blood Supply to a given area,
- Increase Oxidation and Oxygenation,
- Promote Absorption of Exudates, and
- Liberate Ozone.

A few of the best known conditions which are successfully treated with this modality are: Abscesses, Acne, Eczema, Skin Ulcers, Eye Strain, Chilblains, Pyorrhea, Lumbago, Enlarged Tonsils, Blepharitis, Uterine Diseases, and for the relief of pain in Neuritis and Rheumatism.

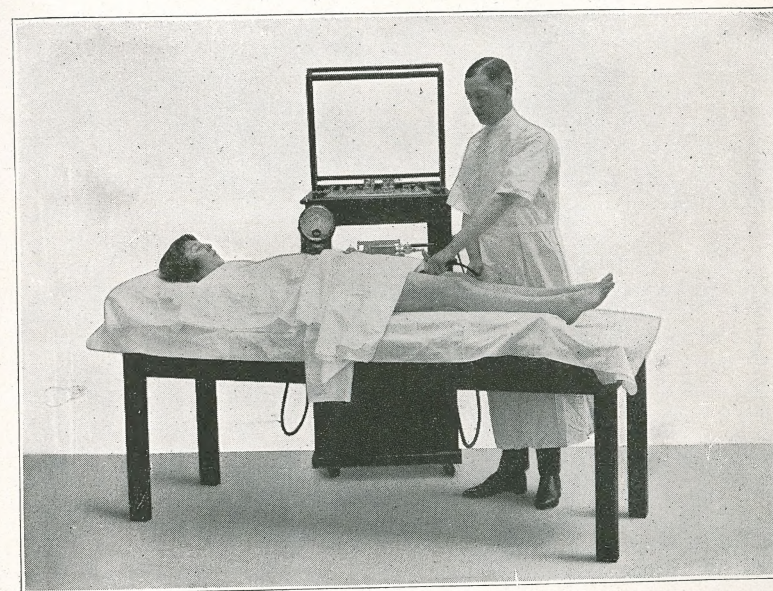
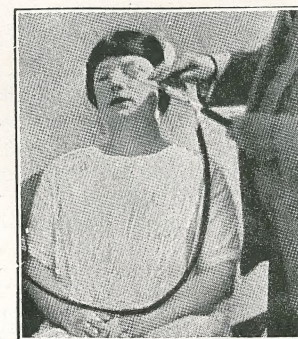
**Suggestions For High Frequency Treatments (Acne)** Open the nodules with a needle, and express the pus. Set lever "T" on point 2 and pull out the slide rod two gaps, or that far until a spark of  $\frac{3}{4}$  inch will pass from the No. 1 or No. 9 Surface Electrodes when held that distance from the palm of the hand. Apply the electrode to the affected skin, turn on the current, and keep the electrode moving. Avoid sparking. The length of treatment will vary with the case at hand, but an average of 7 to 9 minutes, to produce Hyperemia, about three times a week, will be found sufficient.

To avoid the difficulty of the glass electrode adhering to the skin it is advisable to either dust the surface with talcum powder, or place a thin handkerchief over the treated area.

**Skin Ulcers, Eczema, Superficial Abscesses, Lupus Vulgaris** and the like are successfully treated in a similar manner to Acne.

**Lumbago** is best treated with lever "T" on point 3 or 4, and the slide rod out to the fourth or fifth gap, as a vigorous, rather harsh rubbing is necessary.

**Blepharitis** and other ailments around the eyes, needs the application of a fairly mild current. Set lever "T" on point 1 and use only the first spark gap. Place the fingers of your own hand on the back of the electrode, after closing switch "X", apply the glass surface to the area desired and then remove your fingers. This will prevent too much current reaching the tender spot too suddenly and will avoid possible discomfort to the patient. Four or five minutes, daily, is recommended.



Application H. F. to Vagina



**Uterine Diseases** require specially shaped and insulated tubes, that only those sections affected may receive the treatment. All inflammation of mucous membrane, especially in the orifices, should be treated with mild currents; that is, with lever "T" on point 1 or 2 and not more than two spark gap sections in operation. Applications not to exceed 7 minutes, each, either daily or three times a week, depending on the urgency of the case, are usual.



No. 12 Electrode

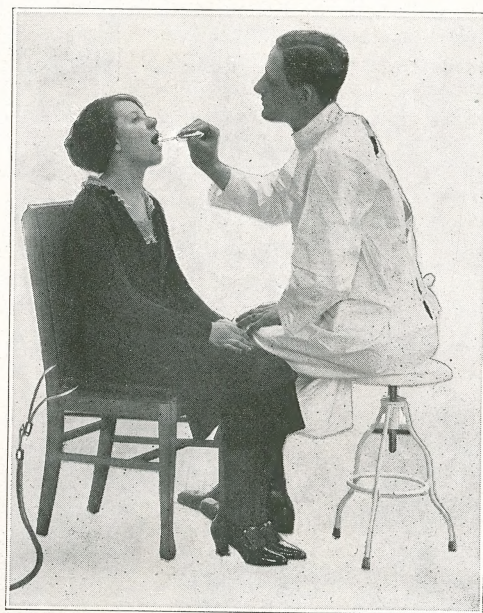


No. 13 Electrode



No. 23 Electrode

**Enlarged Tonsils** will yield readily to the High Frequency spray from a glass electrode. The patient should either be seated on the No. 410 Chair Pad, or reclining on the No. 420 Cushion, which pad or cushion is connected to pole "C" on the front of the Cabinet by means of the single heavily insulated cord. Use a glass tongue depressor, over which slide the No. 4 or No. 6 Tube, placing the tip



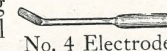
Indirect H. F.—Electrode on Tonsil

directly in contact with the tonsil. Have lever "T" on point 3 and the spark gap open to the third or fourth section. This electrode is *not* to be connected to the Machine in any way, but instead, held in your own hand firmly. Now, either have a third party throw on the current, or employ a foot switch, and pass this unusually heavy discharge for an

*instant only.* Move the electrode to another spot and repeat operation, and continue until entire area has been gone over. Do not permit any of the current to touch the lips or teeth or any part of the mouth except the tonsil, itself. There will be marked shrinking almost immediately, but none of the objectionable sloughing which follows the average electrical application.

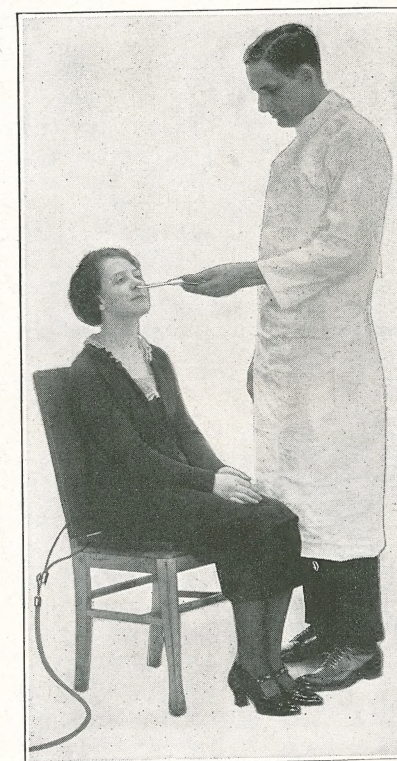
### Nasal Congestion

is almost instantly relieved by inserting the No. 4 or No. 14 Tube in the nostril and giving a 5-minute treatment with a medium current.



No. 4 Electrode

Seat the patient on the No. 410 Chair Pad, or if you have no pad have the patient recline on the No. 420 Couch Cushion, which pad or cushion is directly connected to pole "C". Have lever "T" on button 2 and use four sections of the spark gap to insure a fairly heavy discharge. Have the patient insert the electrode (which tube is not connected in any way to the Machine) into the nostril, and hold it there.



Indirect H. F.—Electrode in Nostril



Throw on the current, place your own hand on the tube, release the patient's fingers and a considerable volume of current will come *from* the patient to yourself—an indirect method, but permitting of large applications of High Frequency with no electrical sensations for inconvenience.

**Miscellaneous High Frequency Treatments** The foregoing are but a small portion of the many various ailments in which the High Frequency electrodes are indicated, and were selected because of their diversity. The "Indirect" method of application is at the present time finding great favor. A greater volume of current can be used, there is practically no electrical sensation and the fingers will take the place of the glass electrode in a great many instances.



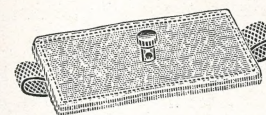
Indirect H. F.

Place the patient on the chair pad or couch cushion, which pad or cushion is directly connected to pole "C" on the Cabinet, and have lever "T" on point 3 and use three or four sections of the spark gap; place all four fingers of both of your hands on the patient's neck, that is, under the ear, and close the circuit by means of the foot switch. You will notice a decided warmth in the fingers, and the patient, too, will experience a pleasant warming sensation at the point of contact. Now release gradually one finger after the other until only one or two are in contact, and you will notice as you lessen the surface covered that the heating effect increases in exact inverse proportion.

Practically all applications average 7 minutes' duration, although 5 minutes will be found adequate for some cases and as high as 10 minutes will be required for others. For more complete information on the subject of High Frequency Currents and their application, we refer you to some recent complete book on the subject, a list of which books we will furnish on request.

**Medical Diathermy** Diathermy, the latest development and unquestionably the most useful of the High Frequency modalities, is used in two distinct forms—Medical and Surgical—and, as the two are generated in the same way but applied differently, we will describe the applications in detail.

The outstanding difference between applying Diathermy for Medical and Surgical purposes lies in the fact that in the former we raise the temperature of the tissues within physiological limits, while in the latter we far exceed this limit, and tissue is destroyed.

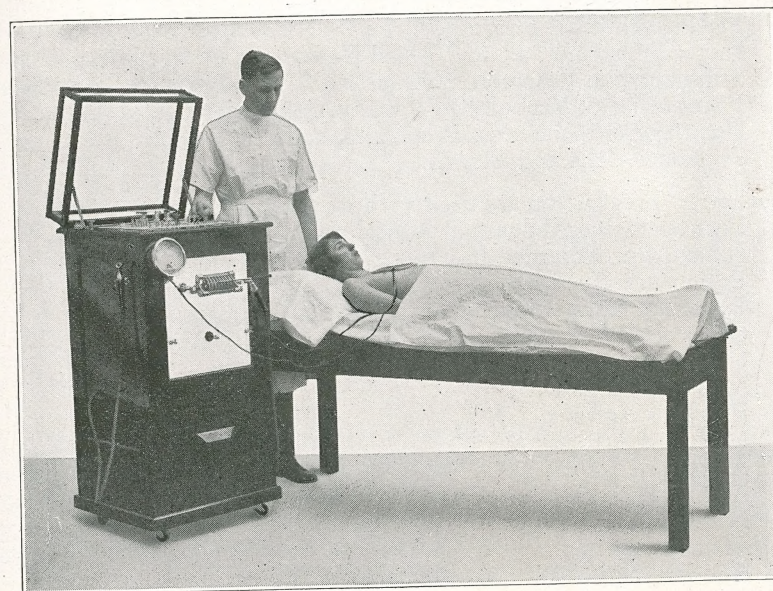


No. 690. Pad



Nos. 606 Disc and 606 R. Handle

Employing proper Medical Diathermy Electrodes, and proper operating technic, we are able to concentrate to any sized areas, varying degrees of heat, and at the same time to accurately measure the dosage.



Medical Diathermy

This is accomplished with no so-called "Electrical Sensation" to the patient. The method is bi-polar—the current coming from post "B" and meter connection "H"—and the electrodes may be plain sheet metal, either applied directly to the skin or covered with an absorbent material, or specially constructed applicators combining these materials.



The dosage will naturally vary with the type of case under treatment, as well as the square inch surface area of the electrodes, the accepted rule being to use 500 Milliamperes for each 7 square inches of surface covered, as a maximum.

Doctor de Kraft says of Diathermy treatments: "Venous congestion wherever present, is relieved because of the marked activity of the arterial circulation. Anemia of the splanchnic area ensues, and visceral congestion is relieved. The liver, intestines and other organs within the abdominal cavity are made to disgorge the stagnant pools of blood which bathe their structures.

"When the action of the Diathermic Current subsides and the blood stream returns again to its normal channels, freshly oxygenated arterial blood enters in greater abundance into the previously anemic and (before the heating) venously congested areas. The parts are placed in a better state of defense against the invasion of toxins and bacterial colonies."

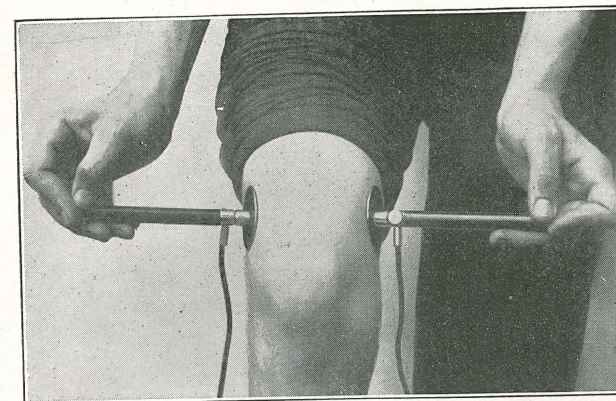
**Briefly, Medical Diathermy Applications:—**

Produce Internal Heating,  
Increase Oxygen and Red Blood Cells,  
Stimulate the Vasomotor Nerves,  
Effect relief of Venous and Visceral Congestion,  
Have marked Analgesic Properties, and  
Stimulate Cells and Glands.

**Diathermy Treatments are used with wonderful success in:—**

Post-operative Abdominal Adhesions,  
Inflamed or Enlarged Prostate,  
Pulmonary Tuberculosis,  
Bronchial Congestion,  
Gonococcal Infection,  
Chronic Urethritis,  
Mastoid Congestion,  
Paralysis Agitans,  
Muscular Atrophy,  
Ankylosed Joints,  
Angina Pectoris,  
Neuralgias,  
Arthritis,  
Neuritis, and  
Sciatica.

**Application** Where it is desired to heat any certain section of the  
**Diathermy** body, the proper method is to place electrodes opposite one another, which electrodes should be of such size as is indicated by the area involved, i. e., of equal size if a general heating through is desired, or of carefully computed dimensions if the heating is to be concentrated nearer to one surface.



Application Diathermy

When electrodes of equal size are applied to opposite sides of the trunk, some heating will be apparent right through, with the maximum temperature increase at the point of crossing of the lines of energy from the edges of the plates. By using a large pad or plate on one side and a smaller on the other, the intensity of the resulting heat will be in exact inverse ratio of the square inch area covered.

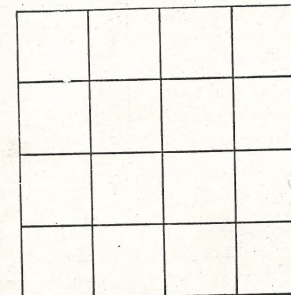


Diagram 16 Squares

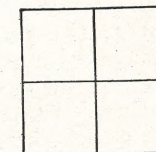


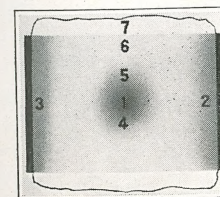
Diagram 4 Squares

Before applying Diathermy, some knowledge of its action on the tissues is very necessary. One may apply the same sized electrodes to opposite sides of the limb and obtain very different results; by starting at a low point and increasing the current gradually, or by using too great a volume of energy from the beginning.

This figure illustrates effect of heating when applying electrodes of equal size to opposite sides of a piece of beef.

Volume of current used 700 Milliamperes for first 5 minutes, followed with 1,000 Milliamperes for 3 minutes.

Point 1 in approximate line of crossing of lines of energy from opposite edges of electrodes showed highest thermometer reading—105.5 degrees.



(No. 1)



Point 2 with thermometer placed in meat  $\frac{1}{2}$  inch from electrode—102.5 degrees.

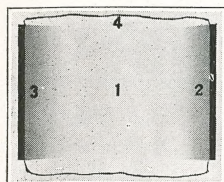
Point 3 with thermometer placed in meat 1 inch from electrode—101.5 degrees.

Point 4 about 1 inch from No. 1—101 degrees.

Point 5 about 2 inches from No. 1—100 degrees.

Point 6, thermometer set just within path of crossing current—99.5 degrees.

Point 7—no heating. Temperature remains normal outside of path of current.



(No. 2)

burning sensation at points of contact.

This figure illustrates effect of heating when applying electrodes of unequal size, in this instance a 5-inch circular disc on one side of a piece of beef, and a 2-inch on the other.

A moderate current, only, was used at the start—500 Milliamperes for 5 minutes, increasing to 750 Milliamperes for an additional 5 minutes.

Point 1, the point of crossing of lines of energy of opposite edges of the discs, showed a thermometer reading of 105 degrees.

Point 2 with thermometer  $\frac{3}{4}$  inch from smaller disc—103 degrees.

Point 3 with thermometer  $\frac{3}{4}$  inch from larger disc—99.5 degrees.

Point 4 with thermometer  $\frac{3}{4}$  inch from No. 1 showed a reading of 102 degrees.

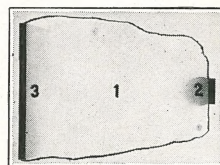
Point 5 with thermometer  $1\frac{1}{2}$  inches from No. 1 showed a reading of 101 degrees.

Point 6—this section remained normal.

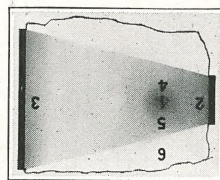
This figure illustrates effect of heating when applying electrodes of unequal size, as in No. 3, when using 900 Milliamperes right from the start.

Practically all of the heat concentrated at Point 2, under the smaller disc, the thermometer registering 110 degrees at the end of 10 minutes.

Heating at Point 1 was negligible because of the resistance of the skin at Points 2 and 3, due to the too sudden application of current and resultant burning.

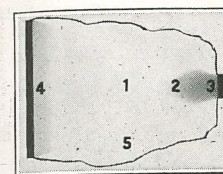


(No. 3)



(No. 4)

The current was then increased to 1,500 Milliamperes for 7 minutes, and then 2,000 M. A. for 5 minutes additional. The meat was thoroughly cooked at Points 1 and 2, especially so under the smaller disc, and blanched considerably at Point 3 but the temperature did not exceed 110 degrees at a distance of 2 inches from Point 1.



(No. 5)

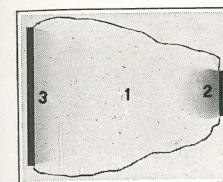
This figure illustrates the application of one 5-inch disc and one of 1-inch, only, to opposite sides of a piece of beef. Only moderate current was used, starting at 300 Milliamperes and increasing gradually to 600.

Points 1 and 2 showed increase to 100 degrees only.

Point 3 showed a reading of 106 degrees.

Point 4 showed temperature increased to 102 degrees.

Point 5 showed no perceptible increase from normal.



(No. 6)

This figure illustrates the application of unequal sized electrodes as under No. 5, but with 700 Milliamperes used to start.

Heating was increased to 108 degrees at Point 2, to 100 degrees at Point 3 and remained normal at Point 1 because of the resistance of the skin at Point 2, due to the too sudden application of current and resultant burning under this smaller disc.

Starting with a small amount of current and increasing gradually will warm the tissues almost equally throughout between the electrodes, with the point of the crossing of the lines of force as mentioned in the preceding paragraph somewhat higher in temperature than the remainder.

Using electrodes of equal size and starting with a great volume of current abruptly, practically all of the heat will concentrate at the surface right under the electrodes, with a drying out of the conducting materials that you have applied as well as of the skin, itself. The patient will be uncomfortable, will probably complain of prickling sensations and in all such procedure is to be avoided.

This holds true up to a certain point when using electrodes of unequal size. Starting with a moderate current and gradually increasing will produce the result as indicated in Figure No. 3. Increasing too rapidly will heat under the surface of the smaller electrode as in Figure No. 4, and in just a moment's time the sensation will become unbearable.

The volume, as measured in Milliamperes, will determine the length of the cone-shaped heated area, although the point of crossing of the lines of current will always be the point of maximum heating except when the electrode on one side is a great deal smaller than the other, when the heat will concentrate very noticeably at the surface under the smaller contact.



**Characteristics Of Diathermy Current**

High Frequency Currents take the shortest course between two points of contact, on the body, whereas continuous currents always follow the path of least resistance. Again, the former currents find great opposition or resistance when passing through metals, which materials form the best conductors for the latter. The bones offer great resistance to the passage of Diathermy; moist skin, very little.

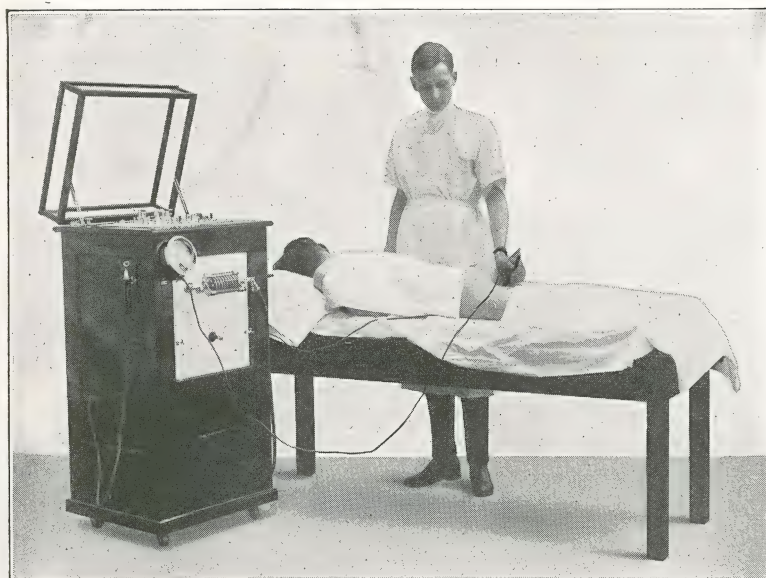
Muscle and bone retain the heating after Diathermy for hours, while the skin heat is dissipated by radiation, and the tissues immediately below lose heat by conduction through the dilated blood vessels.

Doctor Grover states: "The resistance of the skin, the thickness of the fat underneath the skin or anywhere between the electrodes, the moisture of the tissues, the density of the tissues, the reflexes of the patient, the distance between the electrodes, the size of the electrodes and the degree of temperature desired, all enter into consideration when considering a Diathermy Treatment."

One more important point to bear in mind: A 4-inch electrode, that is, 4 inches square, will pass four times as much current as a 2-inch; and again, by increasing the Milliamperage from 500 to 1000 we actually increase the heating by four times, although we have but doubled the meter reading.

\* \* \* \*

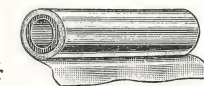
We will assume that the foregoing is sufficiently detailed to enable the reader to judge when and where to apply Diathermy, and will proceed to the actual placing of the electrodes, their construction, etc.



Application Diathermy (Rectum)

**Diathermy Electrodes And Their Application**

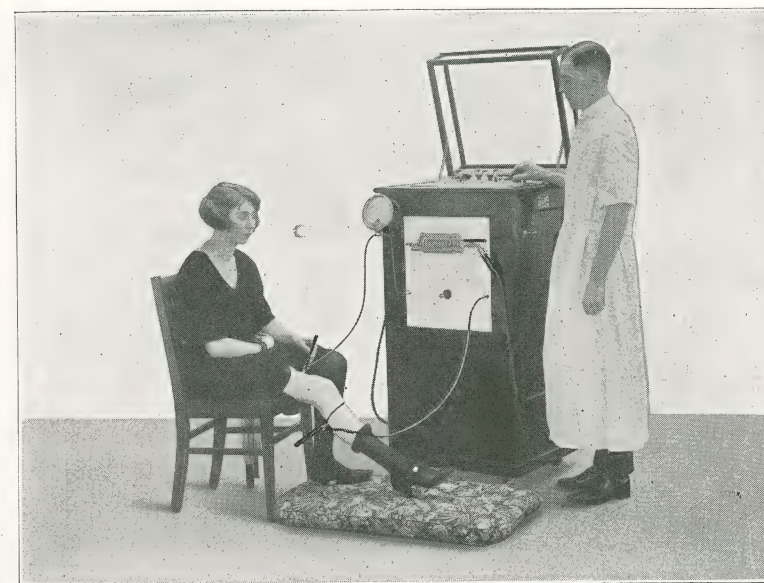
Diathermy Electrodes in most common use today are made of a metal base and covered with an absorbent padding. We recommend electrodes made of Block Tin that may be cut to any desired shape and size, and easily bent to the contour of the part to be treated, and, unless they are to be applied to exceptionally uneven surfaces they need have no padding—the very best results, that is, the greatest Milliamperage with the least "Electrical Sensation" to the patient being obtained with the bare metal covered with a thick soap lather.



No. 692. Block Tin



Electrode of Block Tin



Application Diathermy to Limb

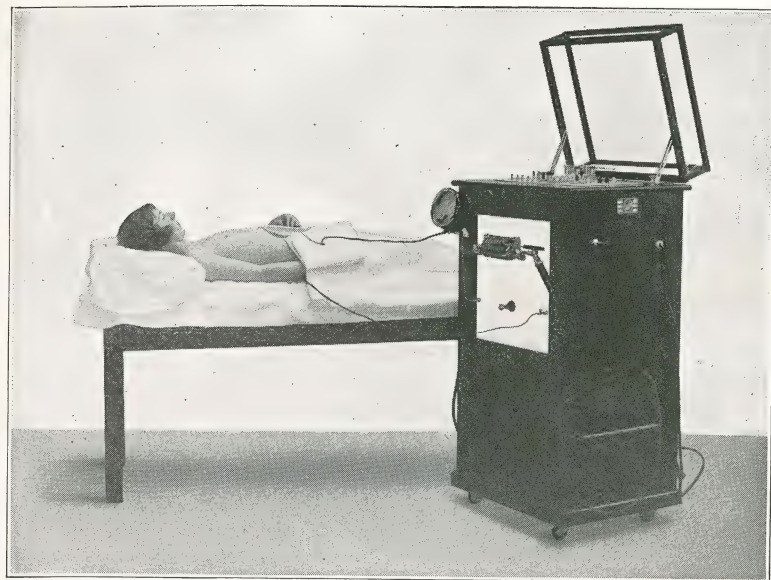
Before applying the metal to the skin, cover both thoroughly with the lather and *immediately* bind the electrode in place:—on the limb with two rubber bands or, on the trunk, with tapes or sandbag.

It is readily seen from the physiology of the Diathermy Current, when and where to apply it, but the following suggestions are offered for your further guidance:

Determine the size of your electrodes, carefully.

Before starting the Machine make sure that all controls are set at *minimum*, and that positive connections are made at all points. Poor, or loose connections must be avoided.





Application Diathermy to Abdomen



Application Diathermy to Limb

Never apply a dry electrode to a dry skin. Either cover the metal and skin with soap lather, or use moist padding, or wet with a saline solution.

It is inadvisable to use Diathermy during menstruation or in acute hemorrhagic conditions.

When administering Diathermy, start the treatment with a low current. Better results are obtained from a low first reading, which may be steadily increased as desired; let the feeling of the patient be your guide as to quantity, as, except in cases of skin anesthesia, the danger is quite far beyond the point of comfortable toleration.

Treatments will average from 10 to 25 minutes.

### Heating The Inner Ear

A novel and exceedingly effective method of heating the Inner Ear is accomplished with Diathermy.



Heating the Inner Ear

Slip one of the No. 614 Hand Electrodes over each of the patient's hands and have the metal parts rest snugly in the palms. If the palms of the hands are dry, moisten them first with salt water. Set lever "T" on point 2, and pull the slide rod out two sections. Have patient seated on a regular straight-backed chair facing the machine.

Have the patient place her fingers on the sides of the head, two in front of the ears and two under. Start the current by closing switch "X" and the patient will immediately feel a pleasant sensation of warmth at the points of contact. Have patient remove one finger from each side, slowly, and the heating will become more marked under those fingers still in contact. Have patient remove a second finger from each side and slowly slide the remaining two onto the ears, *but keep them (the fingers) in good contact with the skin.*

Have patient insert the index fingers into the ears and after making sure that the volume is not too great, remove the third fingers from each side, leaving only the index fingers in actual contact, with a concentration of current and resultant heating through the head, which heating cannot be obtained by any other known method. This produces as much heating internally as on the surface, and you may set lever "T" on point 3, and open the spark gap another section or two, if the patient can endure the warmth.

There are two methods of applying this treatment to the patient—either as above, with you operating the machine, or place the patient conveniently and slip the No. 614 Electrodes over your own hands, applying your fingers as contacts to the face.



**Application  
Diathermy  
To Limbs**

A simple effective method of applying Diathermy to the lower limbs is to place the feet into trays filled with salt water, which fluid is connected to the cabinet by means of the special No. 618 Electrodes in the same manner as you would the Diathermy Discs. For applying this method to the arms and shoulders, place the hands in the trays.

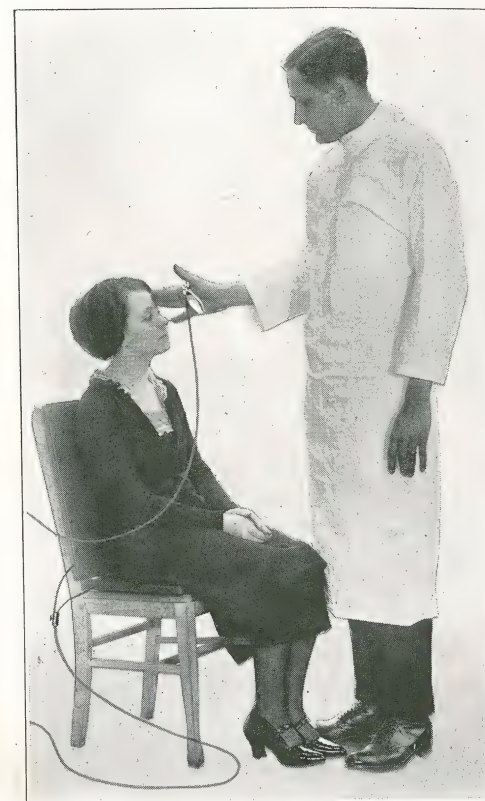


Placing the feet in the trays, setting lever "T" on point 3 and using three or four sections of the spark gap, will produce a general warming throughout the legs with the concentration at the smallest diameters. Placing the hands in the trays will send the warming current up the arms and over the back and chest.

**Indirect  
Application  
Diathermy**

An indirect modified Diathermy is obtained by using the No. 410 Chair Pad, or the No. 420 Couch Cushion, as one of the electrodes. The patient is placed on the pad, which is in turn connected to post "B" on the cabinet; the other connection is made from post "H" on the meter to the No. 614 Hand Electrode.

Slip this electrode over your own hand, take position on the pad or cushion, and try the treatment on yourself, first. Have lever "T" on point 2, the slide rod withdrawn two sections, place your fingers on your forehead and have a third person start the machine by closing switch "X". Move your fingers down over the nose, between the eyes and under the chin. Note the smooth heating effect obtained. Keep



Indirect Diathermy

the fingers in positive contact with the skin at all times, but massage gently back and forth, and you will be convinced that congestion from most any cause must yield very readily.

**Cautions** Always have the Compressed Air coursing through the Multiple Spark Gap when giving Diathermy Treatments. Set the indicator on the top of the Cabinet to "Pressure," see that the Valve in the Pressure Handle is open, insert the tip of the handle into the end of the gap support, and start the motor.



**Surgical Diathermy**

Surgical Diathermy is the application of High Frequency Currents for the destruction of tissues by the heat produced through the resistance offered by the tissues through which the current is forced, without sparking.

This method differs from all other applications of heat in that instead of the heat being sent inward from the skin, electrically or otherwise, the heat is *actually generated within the tissues*, and the temperature of a growth raised to the point where coagulation takes place.

Surgical Diathermy is used to advantage in cases involving malignant tissue; in fact, it is far superior to any other known method in that otherwise inoperable growths are successfully destroyed. The blood and lymph coagulate and the vessels are sealed, and infecting organisms are destroyed. Tissues to be destroyed by Surgical Diathermy must be accessible; the active electrode must be placed in actual contact, and the less widespread the growth the better will be the result. The major advantages of Surgical Diathermy are:

Operations are Bloodless,  
There is little Surgical Shock,  
The parts are thoroughly Sterilized,  
Tumors otherwise inoperable may be safely removed,  
The operations are quickly done, and Post-operative Adhesions are rare, and  
Patient convalesces rapidly.

Especially recommended for use in:

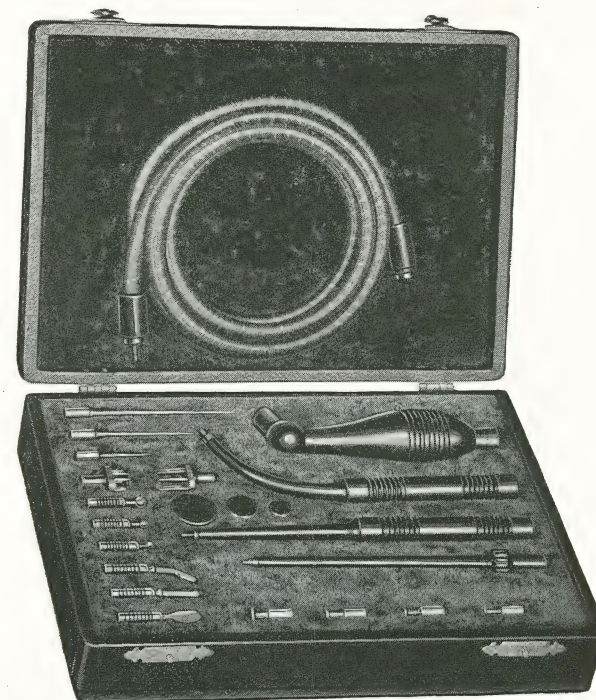
Destruction of Diseased Tissues and New Growths,  
Tumors of the Uterus and Bladder,  
Chronic or Malignant Ulcerations,  
Cancer of the Uterus,  
Uterine Fibroids,  
Carcinoma of the Mouth, Throat and Cervix,  
Superficial Lesions,  
Malignant Growths,  
Vascular Tumors,  
Rodent Ulcers, and  
Cauterization.

**Surgical Diathermy Application**

The method is similar to the Medical Diathermy only in the fact that it is bi-polar, that the same terminals on the Cabinet are employed, and that *Heat* alone is the agent. In administering Medical Diathermy we employ heat well within physiological limits, while in Surgery destructive measures—actual coagulation—are resorted to.

We will refer in the following to the *Active* and *Indifferent* Electrodes; the former being the small point or disc which is placed in direct contact with the diseased or morbid tissue, and the latter, a large metallic plate to cover a great deal of skin surface with no danger of destroying healthy tissue, which is placed preferably on the opposite side of the body. The parts under the large plate will become only slightly warmed on account of the large square inch surface covered, as compared to the very small area at the point of contact of the Active Electrode where destruction is desired.

The Active Electrode may be any one of the small discs, or single or multiple point applicators illustrated below. The applicator is screwed to the end of the proper handle; the cord connected to the opposite end, and the cord tip inserted into binding post "H" on the Meter.



No. 1300. Set Surgical Diathermy Electrodes

The Indifferent Electrode, preferably a sheet of Block Tin about 8 inches square (or round) is connected with the outlet "B". The surface of the skin is first covered with a thick soap lather, and the under side of the metal plate likewise, insuring excellent contact with a minimum of electrical resistance. Warm Saline solution may be used, but if a weak solution (or plain water) is employed, the temperature will rise too quickly and too high at the point of contact, and scalding may result.



**How Obtain  
Diathermy  
(Surgical)**

See that switch "X" is open,  
Set control lever "T" on point 2,  
See that lever "V" is set on point 1,  
Set the slide rod "J" in to the last gap.

If a Foot-Switch is employed leave switch "U" open; otherwise it must be closed.

The "Indifferent" Electrode is connected to post "B". The "Active" Electrode is connected to the post "H" on the meter. When a greater volume of current is required than can be registered on this meter (over 2500 M. A.) disconnect same by removing the wire running from "A" to "G", and connect the Active Electrode to "A" direct.

Diathermy Current should always be started at a low setting, and the electrodes, both Indifferent and Active, placed in the desired positions, and in such manner that *they will not move, before the switch is closed.*

The small Disc and Button Electrodes are never moved with the current on. When the Knife is used it may be moved slowly in the desired direction, but the tendency is to proceed too rapidly and insufficient coagulation at some places will result. Never attempt to hurry this work. Proceed slowly and methodically, and be assured of "finished" results.

**Illustration No. 1**

A piece of nearly rare beef, 2 inches square, and three inches thick, was placed on a piece of block tin, which electrode was connected to post "B" on the cabinet. The  $\frac{3}{4}$  inch circular disc (Catalog No. 1323) was placed in firm contact with the center of the top, the slide rod "J" withdrawn one section only, and control lever "T" set on point 2. A current of 700 Milliamperes was passed for 1 minute, and followed with 1200 M. A. for another minute.



Result:—An evenly coagulated mass of tissue, white in appearance, extending 1 inch on the surface and  $\frac{1}{2}$  inch deep. No evidence of burning or char.

**Illustration No. 2**

The  $\frac{3}{4}$  inch disc was placed in contact, as above, with a fresh piece of beef, and approximately 4000 Milliamperes passed for 1 full minute.



Result:—A charred crust  $1\frac{1}{8}$  inches wide on the surface, and extending down almost  $\frac{1}{4}$  inch. Below this hardened section was a coagulated mass another 1 inch deep, tapering off in a cone shape.

**Illustration No. 3**

A larger piece of beef, measuring 3 in. x 3 in. x  $2\frac{1}{2}$  in., was used in this experiment. The 5 pronged multiple needle electrode was forced down into the center until the flat section rested on the meat proper. The slide rod "J" was withdrawn two sections, the control lever set on point 3, and 1100 milliamperes passed for  $\frac{1}{2}$  minute, followed with  $\frac{1}{2}$  minute of 2000 M.A.

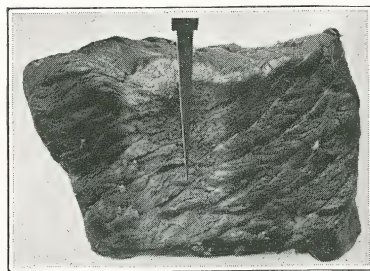


Result:—An evenly coagulated white appearing mass of tissue, extending  $1\frac{3}{8}$  inches deep and  $1\frac{1}{8}$  inches wide. No charring.



**Illustration No. 4**

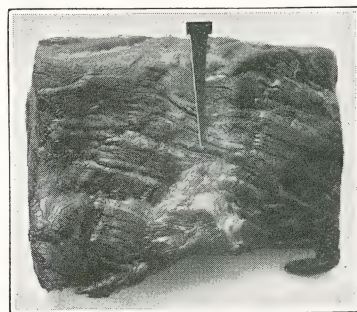
A piece of fresh lean beef  $2\frac{3}{4}$  inches square by 2 inches deep was placed on the indifferent electrode, and the Single Needle No. 1308 plunged 1 inch down from the top. A heavy current of 2300 Milliamperes was passed for 1 minute.



Result:—A burned mass, charred black where the electrode had made contact, and thoroughly cooked clear through to the bottom, and  $\frac{1}{8}$  inch wide.

**Illustration No. 5**

The same size piece of beef was used as described under figure 4, and the same electrodes. Current was turned on more gradually—starting at 600 Milliamperes for  $\frac{1}{2}$  minute, followed with 900 M.A. for the same length of time.



Result:—An even coagulation,  $\frac{5}{8}$  inch wide and 1 inch deep. No charring, and the line of coagulated tissue clearly defined.

**Cautions** As far as practicable, avoid the Veins and Arteries when applying Surgical Diathermy.

Use considerable care when operating around the Bony Structure, as there is a risk of destroying the periosteum.

Do not attempt operations without a careful preliminary study of the parts involved.

Start treatments with a low moderate current, and increase gradually. Too much "speed" in Surgical Diathermy will be the cause of possible failure of the operation, when success would have been assured if more time and care were exercised.

**Fulguration** This very valuable modality is best considered as being in two distinct forms: a *Destructive Process* (*Electro-Coagulation*), the modification of a Diathermy application obtained from the d'Arsonval windings, and the *Dehydrating Process* as obtained from the Oudin Coil—pole "C".

**Electro-Coagulation** When it is desirable to concentrate a great volume of heat at a certain point, instead of applying sparks, the Fulguration method used is a form of Surgical Diathermy.

It is clearly a *Destructive Process*;

For coagulating tissues to any desired depth,

Leaves sterilized wounds,

Leaves normal cells intact,

The Blood and Lymph channels are sealed, lessening the likelihood of metastasis in cases of malignancy.

It is recommended for use in—Destroying Growths and Infective Granulomata of the Skin and the Mucous Membrane of the Mouth, Nose, Pharynx, Tongue, Larynx and Oesophagus.

Bearing in mind the following theory which is so clearly proven by tests, the operator can readily see the usefulness of the application and how to apply it to advantage. The *Larger* the Electrode the greater will be the diffusion of energy—whereas, inversely, the *Smaller* the Electrode the greater will be the concentration of energy and resultant heat.

Placing a large pad, preferably of Block Tin, on one side (which pad we will call the Indifferent Electrode) and a very small applicator on the opposite side (which applicator we will call the Active Electrode) and proper regulation of current, will generate sufficient heat under the latter to actually coagulate the tissues.

The electrodes are connected to the Diathermy outlets on the cabinet, and a moderate current, only, applied.

Set lever "T" on point 1.

Set the slide rod in to the last section of the Spark Gap, and be sure that switch "X" is open before applying the electrodes.

The skin under the Indifferent Electrode should be thoroughly moistened and covered with a heavy soap lather, to insure positive contact.



**Fulguration** For the ordinary application of the direct Uni-Polar  
**Desiccation** Fulguration modality, use the single pole "C", and the special handle No. 20, with the three tips.

This is a *Dehydrating Process*.

A successful treatment for all accessible benign Neoplasms of the skin and Mucous Membranes.

It is curative in localized Malignant Lesions.

Recommended for use in the removal Bladder Papilloma, Lupus Vulgaris, Warts, Moles, etc., and the Desiccation of Tonsils.

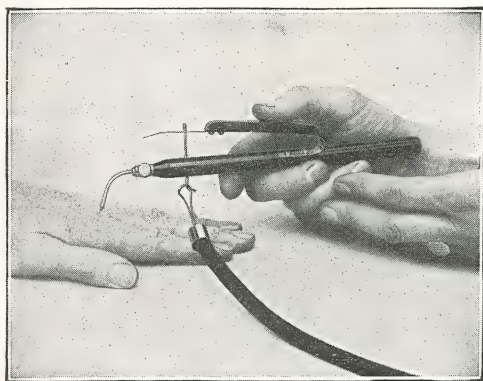
See that switch "X" is open.

Set lever "T" on point 1.

Set lever "V" on point 1.

The setting of lever "W" is immaterial.

Set the slide rod in to the last section of the spark gap.



Application Fulguration

Use the heavy High Frequency Cord, and make connection from the pole "C" to the ring on the No. 20 Fulguration Electrode. Set one of the small tips in place in the handle. Ordinarily with lever "T" on point 1, and the first section of the gap in use, sufficient current is obtained for all treatments; but if a shorter, milder spark is desired, set the end of the slide rod in the spark gap so that it rests close to the end copper plate. The spark capacity can be adjusted from this point (from zero) up.

Close switch "X," and apply electrode point directly to the part to be treated, press the spring lever, and then remove the point to beyond sparking distance. Or, hold the point a short distance from the spot and press the contact lever to carry the current across. A few short applications of less than a second each are generally sufficient for removing the smaller growths.

Never treat beyond the point at which the growth turns white. It is advisable to have your patient return to the office after three days time, during which period a scab should have formed. If not, repeat the Fulguration treatment. Usually the growth will have disappeared after one application.

Fulguration is usually rather painful, and it is advisable to use a local anesthetic. General anesthesia is sometimes necessary.

**Indirect** Set lever "T" on point 2.

**Fulguration** Set lever "V" on point 1.

The setting of lever "W" is immaterial.

Have the slide rod set in to the last gap.

Use the heavy High Frequency Cord and make connection from pole "C" to the metal handle No. 52. Have the patient hold this handle in both hands. Hold one of the pointed fulguration needles in your own fingers; seat the patient comfortably; close switch "X", and approaching the wart, or whatever it is you wish to attack, with the metal point, you will note that the current comes FROM the patient to the point, instead of from the point TO the skin.

This application is a great deal less painful than the direct method, the operator will feel no sensation, no ill effects will result, and a greater volume of current may be employed.

Another method, from the d'Arsonval windings, is almost an indirect Diathermy application. Place the patient on the couch cushion, or on the No. 410 chair pad if you have one, which cushion or pad is connected to one of the d'Arsonval outlets on the cabinet, and the opposite post is connected to the fulguration handle. Application is made as under the heading "Fulguration." The sparks will be shorter, but a great deal hotter and more caustic in action. This method may be carried to a point where actual coagulation of the part is accomplished.



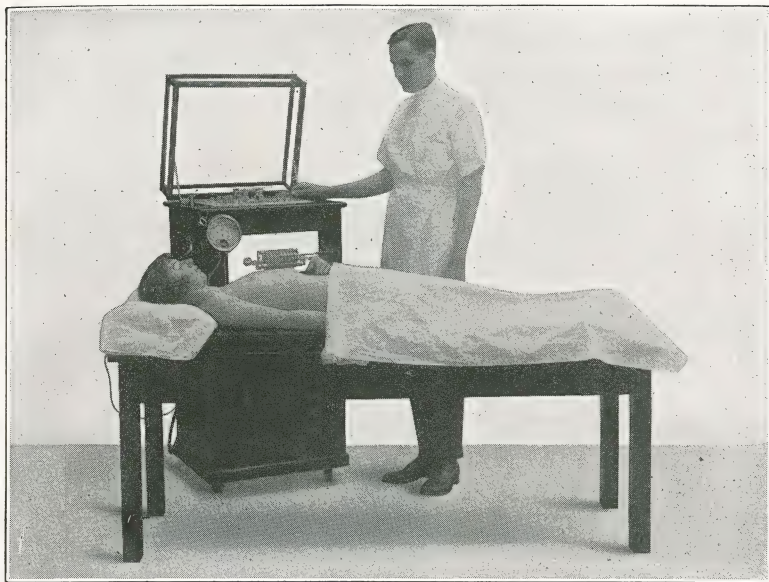
Indirect Fulguration



**D'Arsonval  
Auto  
Condensation  
Current**

Is sedative in action, acts as a Cellular Massage,  
Reduces High Blood Pressure,  
Increases Metabolism and Bodily Heat, and  
Relaxes and Dilates the Capillaries.

This current is indicated and recommended for us in:



Auto-Condensation

Neurasthenia,  
Arterio Sclerosis,  
Nervousness,  
Menopause, Congestion,  
Insomnia, and all General Toxic Conditions.

The necessary attachments for administering the d'Arsonval Auto-Condensation Current consist of a Chair Pad or Couch Cushion, on which the patient sits or reclines (and which Pad or Cushion is connected to Post "B" on the Cabinet), and an Electrode for carrying energy from the opposite pole (Post "H" on the meter) to the body. The patient's body really forms one section of a condenser.

The Couch or Chair Pad consists of a metallic plate covered with sufficient insulation to prevent the current leaking through, which metal plate is connected to Pole "B" by means of one of the heavy cords furnished. The usual technic heretofore has been to make connection from the opposite pole (Post "H" on meter) to a long metal handle, which handle was grasped firmly in both the patient's hands. A far more efficient application, however, is to strip the chest of the patient and place a good sized electrode of Block Tin at that point.

The objection to taking the Auto-Condensation Current through the hands is simply that the wrists are very poor conductors of High Frequency Currents, on account of their construction and size, and a great deal of the available energy is lost at those points. With a Pad of about 8-inch diameter directly on the patient's body, more milliamperage may be passed with absolutely no discomfort. (This method is often termed "Modified Diathermy".)

It is well to use a moderate current at the beginning of an Auto-Condensation treatment, as in all High Frequency applications. Set lever "T" on point 3, 4 or 5 and pull slide rod out to second gap. About 300 milliamperes is used for a minute or two, and this reading is gradually increased to 700 or 800 by withdrawing the slide rod. The maximum output will be obtained, quite naturally, with lever "T" on point 5 and the slide rod withdrawn entirely. Most authorities agree that a low milliamperage should be used at the first sitting; that the current be increased at subsequent sittings to the desired maximum and then to taper off gradually.

As an example, we find that by breaking off too abruptly the effect will be lost in a short time; we may have reduced the patient's Blood Pressure nicely, but it soon returns almost to normal. On the other hand, by tapering off gradually, as indicated by the milliamperage, the effect is lasting and completely satisfactory. Hence, a number of treatments are required.



Auto-Condensation



**Auto-Condensation Suggestions**

When using over 600 milliamperes of d'Arsonval Current, do not touch the patient. You might both receive disagreeable shocks.

Never use a Metal Table, or give High Frequency Treatments within 6 inches of a water pipe or any other grounded conductor.

Do not employ a heavier current than is necessary. Always bear in mind that you have an abundance of reserve power which seldom need be called upon.

Do not expect to pass the same high milliamperage through a thin patient as you would a stout one. In Diathermy, less millis will pass through an obese person at a given setting of the controls, than a thin one; just the opposite is true in Auto-Condensation.

As an aid during the period of Auto-Condensation treatments, always recommend that your patient drink a great deal of water.

d'Arsonval Auto-Condensation treatments will be found an invaluable aid in Insomnia and most all Nervous Conditions.

Always bear in mind that to obtain the very best of results the patient must be fully relaxed—made just as comfortable as possible.

**Figuring Amounts of Dosage**

There is essentially no danger in Auto-Condensation. There is very little harm in over-dosage, and if high milliamperage is found disagreeable on the part of the patient, less current may be used and the treatments lengthened in proportion.

Patients with exceedingly High Blood Pressure, or with a Slow Pulse, should be carefully watched.

The treatment of Hardened Arteries, the walls lined with calcareous deposits, must be undertaken in a systematic way if lasting, pronounced results are to be obtained. (See foregoing paragraph under "suggestions.")

During the menses it is considered inadvisable to use any High Frequency modality, but, contrarily, in cases of Suppression, Auto-Condensation may be used as a stimulant.

**Cautions** When administering a d'Arsonval treatment, the long Metal Handle must be grasped firmly in both hands, or if the Metal Plate Electrode is used on the chest it must be in perfect contact, and care exercised that the cords do not touch one another, or hang within 1 inch of the body at any point.

It is well to place the patient's hands on a pillow or large book when using the Metal Handle, in this way keeping them away from the body so that there will be no danger of sparking. Sparks might only prove annoying, yet in some instances might cause severe burns.

Never move levers "V", "W" or "T" with the current on. Make all adjustments with switch "X" up.

Never permit your patient to drop the long metal handle with the current on, to relax the hold, or to move the pad electrode on the chest (if this latter method is being used), as the resulting sparks would be sufficient to burn severely.

**Results Of Auto Condensation Treatments**

First: They have a more powerful action on all forms of germ life than any other electrical modality.  
Second: Judging from clinical experience, by means of molecular or atomic massage, the increased bodily resistance is lowered materially.

Third: The use of a Sphygmomanometer, before and after treatment, shows conclusively a fall of from 5 to 10 Millimeter. A sphygmomanometer reading twenty-four hours after the treatment will show that there has been only a slight raise in the Blood Pressure since the last reading was taken. This fall has been secured positively without producing heart depression.

Fourth: Numerous physiological laboratory tests have proved that with the High Frequency Current we can disintegrate a calcareous substance, and we have every reason to believe that the same action takes place in a case of calcareous deposits on the arterial walls.

Fifth: With the lowering of the Blood Pressure and the disintegration of the calcareous deposits, it is very natural to infer that the arteries will regain their normal diameter and elasticity.

Sixth: A High Frequency Current positively stimulates the elimination of carbondioxide.

Seventh: The immense amount of Ozone, or pure Oxygen, set free along the path of High Frequency Currents, takes care of much of the waste products of the body by hastening their elimination through proper channels. Laboratory tests show this to be especially the case with uric acid.

Dr. B. B. Grover says: "The reasons for curing Hyperpiesia by Auto-Condensation and its beneficial results in all cases of Hypertension, may be stated to be because it increases tissue changes by increasing oxidation; elimination of waste products in the urine, due to a more complete oxidation of nitrogenous matter in the body; its special effects upon the protoplasm of tissue cells; its elimination of carbon dioxide and its rapid elimination of toxins; its increasing oxygen carrying power of the blood as well as causing the increase of hemoglobin. These effects are due to an action upon the sympathetic nerves controlling vaso-motor, secretory and peristaltic functions.

An enlarged heart, whether it be from hypertrophy or dilation, is reduced by Auto-Condensation.

There is a decrease in weight on account of increased oxidation. This is noticeable in cases of Obesity.

There is an increase of bodily heat, or temperature, from  $\frac{1}{2}$  to 1 degree Fahr., due, probably, to its profound effects upon the vaso-motor system.

It is necessary to administer laxatives during these treatments to avoid effects of increased metabolism."



**Sinusoidal** The Sinusoidal Current is Sedative and Analgesic. It is a valuable aid in Muscular Atony, many forms of Paralysis, Congestion of the Viscera, Intestinal Stasis, Atrophied conditions of the Muscles and Nerves, and sluggish circulation of the Venous Blood. Also can be used to good advantage as a means of exercising the muscles after the removal of the cast in fracture cases.

See that switch "X" is open.

Set lever "V" on point I.

Set lever "T" on point I.

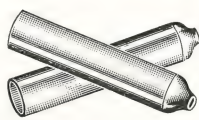
See that lever "W" is on point marked "S".



No. 312. Cords

Use the light maroon cords, and make connection from the posts marked "Sinusoidal" to the Nickel Plated Handles. Have the patient hold these handles firmly, one in each hand, close switch "X" and then gradually increase the current supply by advancing lever "V" as desired,

or up to the point of tolerance of the patient. Limit this treatment to 3 or 4 minutes time, as longer periods will prove tiring to the parts affected.



No. 311. Handles

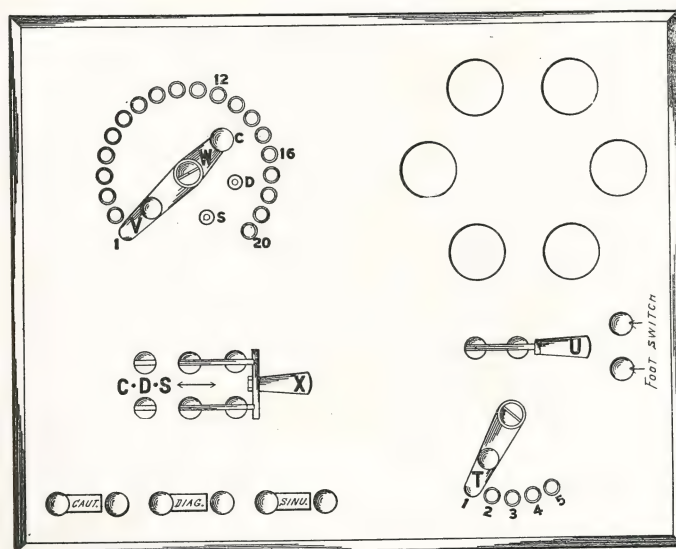


Diagram of Top of "F" Cabinet

### Explanation of Lettering on Marble Top Diagram

C, D, S—On Knife Switch, indicates direction to throw switch for Cautery, Diagnostic and Sinusoidal Currents.

C—Position of Selector Switch "W" for Cautery Current.

D—Position of Selector Switch "W" for Diagnostic Current.

S—Position of Selector Switch "W" for Sinusoidal Current.

T—Main Control Lever, for all High Tension Currents.

U—Knife Cut-out for Foot Switch. To be left Open when using Foot Switch.

V—Lever for Controlling Volume of C. D. & S. Currents.

W—Selector Lever for Cautery, Diagnostic and Sinusoidal.

X—Main Current Control; throw to right for High Frequency, Diathermy, and d'Arsonval; to left for C, D, & S Currents.

### Sinusoidal Application With Felt Pad

When using the Spongio Disc for applying the Sinusoidal Current, saturate same thoroughly in warm salt water and use the same settings of the control levers described

above. Connect tapered tip end of one of the light maroon cords to one of the metal handles, and the other cord to the binding post on the spongio disc handle.



No. 314



No. 315



Application Sinusoidal

Have patient hold the metal handle in both hands, and place the *wet* spongio disc directly in contact with the part to be treated. Advance lever "V" gradually until the proper amount of current has been applied.



**Application  
Sinusoidal  
(Water Contact)**

To obtain the best of results in Paralysis of the arms or across the shoulders, immerse the hands in two pans or trays of salt water, connecting the water to the machine as you would the Sinusoidal handles. The No. 618 Connectors were made for this application.

The same technic applies to the lower limbs by placing the feet in the trays. If it is desirable to use more current on one limb than on the other, place a good handful of salt in the tray where the most current is needed. The action of the salt reduces the electrical resistance of the skin and allows a more free passage of the current. Or, if you wish to obtain a concentrated action on a certain section of a limb, place the spongio disc up as high on that limb as is necessary to get just beyond



Application Sinusoidal

the affected area, with the hand or foot in the tray, and in that way concentrating the muscular contracting action between those poles.

**Helpful  
Hints  
Sinusoidal**

Sinusoidal Current is contra-indicated in cases of High Blood Pressure. If your patient has an abnormal blood pressure use your d'Arsonval treatment, first. Always bear in mind that the Sinusoidal discharge is of low voltage and the skin at point of contact of the electrodes must always be thoroughly moistened with salt water or a soap lather, to overcome the resistance of the skin at that point as much as possible.

The Sinusoidal Current as delivered by the Style "F" Cabinet has but one rate of frequency discharge, and although the voltage can be

varied at will, very often cases are encountered where Interrupted Current is necessary. We will be pleased to quote on a Mechanical Interrupter, on request.

"Sinusoidal" is the term applied to the Alternating Current when used for Medical purposes.

**Cautery** See that switch "X" is open.  
**(Electric)** Set lever "W" on point marked "C".  
Set lever "V" on point 1, or "OFF" point.  
Set lever "T" on point 1.

Use the heavy maroon cords and make connection from the two posts marked "Cautery" to the end of the cautery handle as illustrated. You will note a Contact Button on the handle for the purpose of making and breaking the circuit to the knife.

Select the Knife desired, and mount it in the opposite end of the handle in any one of the five positions.

No. 301. Cautery Handle  
Close switch "X" and gradually advance lever "V", one button at a time, pressing the small contact knob on the handle for each step, until the top of the knife becomes a cherry red.



If you employ a knife heavier than those furnished with the cabinet, and sufficient heat has not been obtained by the time lever "V" reaches the end of its movement, cut off the current at switch "X", advance lever "T" as far as point 5 if necessary, close the circuit again, and repeat as before.

Be careful that lever "V" is not advanced too far in making this test, and that you do not maintain pressure on the contact knob on the handle too long, as there will be danger of burning out the Knife. A cherry red indicates sufficient heat.

The use of the Cautery Knife is mainly for sealing purposes, Nasal Hemorrhages and opening Boils.

**Helpful  
Hints  
(Cautery)** Ordinarily when operating this cabinet of the 110 Volt line the lever "V" need only be advanced to button 5 or 6 to properly heat the knives furnished.

If at any time the Cautery Knife does not heat properly when connected and operated as above, first see that your Pilot Light





Application Cautery

**Diagnostic Illuminator** See that switch "X" is open.  
Set lever "V" on point 1, or "OFF" point.  
Set lever "T" on point 1.

Place lever "W" on point marked "D".

Connect the tips of the Diagnostic Lamp cords to the two posts marked "Diagnostic," see that the small lamp bulb is securely screwed into the small socket, and cautiously advance lever "V" one step at a time until a coloring shade just short of white is obtained. Ordinarily this will be on the fifth or sixth button.



No. 321



Application Diagnostic Illuminator

Should you use a lamp other than furnished with this cabinet, with a greater voltage capacity, and a greater amount of current is required than can be obtained by advancing lever "V" to its limit, open switch "X", advance lever "T" over to point 5 if necessary, again close the circuit, and test as before. Any Lamp made for Diagnostic purposes may be operated in the same manner—the regulation being very fine and the capacity ample, ranging from  $\frac{1}{2}$  volt up to 12 volts.



Application Diagnostic Illuminator

The Diagnostic Illuminator furnished with this outfit may be used for transillumination of the Antra and Frontal Sinuses, and for examination of the Throat and Orifices. There is no danger of shocking while operating, and the lamp bulb does not heat up.

#### Helpful Hints (Diagnostic)

Should your lamp fail to illuminate properly when trying as above, insert the Pilot lamp into the holder—if this lights up it is possible that the original bulb is either burnt out or cracked. Two bulbs are included with the outfit.

Should the Diagnostic Illuminator fail to work, regardless of tests and settings, and the balance of the cabinet be functioning properly as evidenced by the Cautery and other circuits, return the Illuminator to



us at once. If, on examination, we find the trouble due to faulty construction or materials, replacement will be made gratis, but at no time will burnt out or damaged lamp bulbs be replaced except at the usual list price.

**Cautions** Never allow levers "V" and "T" to stop between points—these levers must always make contact on one button, only.

Never move levers "T", "V" or "W" with switch "X" closed.

Never leave the Cabinet with the Pilot Lamp burning. Open switch "X".

Do not expect to obtain Cautery with the lever "W" on "D" or "S". This circuit is completed only when "W" is making contact on point "C"; and the Diagnostic and Sinusoidal circuits are only completed when "W" is set on points "D" and "S" respectively.

**"Trouble"  
Suggestions  
For The  
C. D. & S.  
Circuits**

If the machine should at any time fail to work, that is, you are unable to obtain any current from it, first unscrew the connecting plug from the lamp socket where you obtain the 110 Volt current, and insert a lamp bulb that you know is in good condition in this socket, to test whether or not there is current at that point. If the lamp fails to illuminate, go to the fuse box where the current enters the building (or your office), and look for a burnt out fuse. These fuses should be of 15 ampere capacity.

When the lamp lights up and you know that you have the proper current supply again connect up the machine, but before closing switches "X" and "U" bend the contacts together slightly to make the blades fit more snugly. Set the controls as for example for the Cautery Knife operation. Should the knife fail to heat, remove it from the handle, advance lever "V" to the 5th button and complete a short circuit from one post on the Cautery Handle to the other—i. e., short across the posts where the knife would ordinarily be connected, and when making or breaking the contact, watch for sparking.

If no sparks are visible, you know the trouble is not in the knife but probably in the handle or the connections thereto. Disconnect the cords from the handle, but, leaving them connected to the machine, and with the current on, touch their tips together and again watch for sparking. Carry this procedure down until you reach the actual outlets on the machine in an endeavor to locate the trouble.

If, after shorting across from one Cautery post to another, or from one Sinusoidal or Diagnostic post to its mate on the top of the machine, you fail to see sparks or any indication that the apparatus is working, the matter should be reported to us at once. Before making report, however, look carefully over the High Frequency part and make tests also, that your report may be complete and clear.

*Never turn the Cabinet over to an ordinary electrician, unless with our specific instructions.*

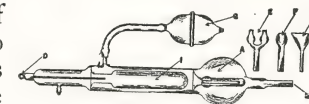
When making any tests, be sure that the control levers "T", "V" and "W" are making good contact on the buttons.

Be sure to call *our* attention to any difficulty that you may experience.

**Ozone** It is a well known fact that wherever there is an electric spark, or wherever a discharge of electrical current is interrupted from any cause, Ozone is liberated. The high voltage discharge of High Frequency Current from the Style "F" Cabinet, especially from the pole "C", generates an unusual amount of Ozone.

One of the most valuable uses of the High Frequency Current is as a Blood Energizer through this particular agent. Ozone is formed in great measure at the point of contact of High Frequency Electrodes, and quite naturally seeks the path of least resistance—which, in the body, is through the veins, as they contain the conductable carbonates and impurities which in turn are mostly in need of cleansing.

Ozone may be inhaled from the special generator No. 22, filtering through Oils of Eucalyptus and Pine Needles, and used to good advantage for Catarrhal troubles. This Generator is to be connected to the pole "C" on the cabinet in the same manner as you would a High Frequency Electrode.



No. 22. Ozone Generator

Ozone may be inhaled from the special generator No. 22, filtering through Oils of Eucalyptus and Pine Needles, and used to good advantage for Catarrhal troubles. This Generator is to be connected to the pole "C" on the cabinet in the same manner as you would a High Frequency Electrode.

Ozone increases the Oxygenation of the Blood and Tissues, and is used in conditions of imperfect Oxidation and Impaired Nutrition, Tuberculosis, Anemia, Asthma, and Bronchitis, and as a spray for surface Ulcers. Also valuable as a general stimulant.

**Cataphoresis** Cataphoresis is the introduction of medicine through the unbroken skin by means of an electrical current, and the High Frequency Glass Electrodes can be used to advantage for this purpose.

**Care of Spark Gap** Should the efficiency of the High Frequency, Diathermy or d'Arsonval currents apparently decrease after a long continuous run, very likely it will be because of clogging of the Multiple Spark Gap. The Air Attachment was designed to eliminate this very trouble, but unless Air is used freely, and all the gas blown out as formed, an occasional cleaning will be necessary.

Remove the gap by unscrewing the supports through the posts "D" and "E". Next loosen the clamp screws in center of each end of the gap. Remove the clamp screws from each end of the upper glass



rod supports. Lift out the glass rod, and the individual sections may be removed.

Wash out the sections with alcohol, or in a solution of salt and cider vinegar, and carefully re-assemble. Do not clamp the sections too tightly together.

**Miscellaneous** For treating the Cavities of the body, the Insulated High Frequency Electrodes, as illustrated and described in the back of this booklet, will be found almost indispensable, as the discharge can be confined to any section desired.

The Heavy Wall Urethral Tube No. 23 is recommended as being almost unbreakable.

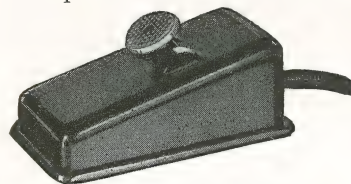
For the weakest setting of High Frequency current discharges, and for finest regulation, allow sparks to pass from the end of the sliderod to the edge of the end copper disc, instead of pulling same out to clear the first section.

Be sure that the switch "X" is open when through using the machine. The small Pilot Light indicates clearly.

Never touch the *metal* parts of the cords or handles when in use.

Never make or break connections with any active poles without first opening switch "X".

**Foot Switch** For Fulguration Applications, both direct and indirect, Electro-Coagulation, Surgical Diathermy, Cautery, High Frequency and other Treatments, a Foot Switch, permitting the operator the free use of both his hands, is of inestimable value.



No. 400. Foot Switch

The controller on the Foot Switch is arranged that instantaneous flashes are possible by merely stepping firmly on the contact button—that by stepping lightly the contact will remain indefinitely whether the foot be removed or not—and an additional slight pressure will again break the circuit. The Contacts are built heavy and durable, and the entire switch protected with the overhanging insulated arm.

## Instructions for the Proper Operation of the Motor and Pump Features on the Style "F" Cabinet

**Vibration (Pneumatic)** Produces Hyperemia, and promotes the Secretion of Bile,  
Very perceptibly stimulates the Cutaneous Functions, Relieves Muscle Strain and many forms of Backache, Is especially useful in Anemia—Appendicitis—Ataxia—Constipation—Fatty Degeneration—Muscular Rheumatism, and Neuralgias. Also useful for most all Adhesions, Congestions, Torpidity of the Stomach and Liver, and equally effective as a Physical Rectifier, Stimulant, and as a Dilating Agent.

To obtain the modality "Vibration" from the Style "F" Cabinet: Disregard ALL of the foregoing instructions on the Electrical Modalities, as the settings of the various control levers will make no difference, provided the main switch "X" is left open.

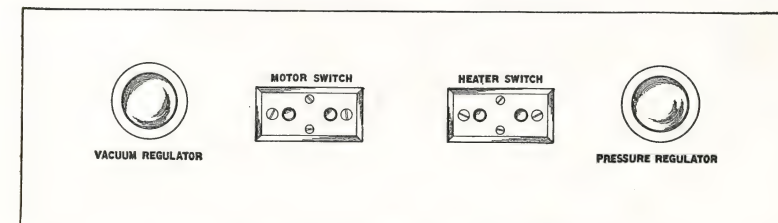
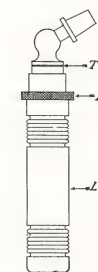


Diagram Motor and Pump Controls

Note the diagram of Controls—the Compressed Air is obtained from the right side (when facing the cabinet) to correspond to the Pressure Regulator, and the Suction from the left.



Pressure Handle

Open the valve in handle "L" by turning the knurled ring "R" to the left far as possible. Select the Vibratode desired and set it firmly (with a slight twist) onto the tapered end of the handle. Slip the Rubber cover over the metal edge of the holder. Turn the indicator "Pressure Regulator" to Vibration.

Start the motor by pressing the *red* button on "Motor Switch."

When using the Cavity Vibratodes care must be exercised that the small holes near the end, where the applicator is fastened to the handle, are not all closed at the same time. These are "vent" holes to allow some of the air to escape, and to prevent the caps from bursting from too much pressure.

Should more pressure be desired to inflate any of the vibratodes to a greater extent, gradually turn regulator from "Vibration" toward "Pressure" until the right amount of expansion is obtained.





Application Pneumatic Vibration



Application Air Hammer Vibrator

For very heavy vibration we have constructed an "Air Hammer" and applicators. See page .....

**Compressed Air** For operating the Nebulizer, Atomers and Powder Blower, Eustacheon Tube Opener,

Parresine Wax Sprayer,

Pneumatic and Percussion Vibrators, and other uses for Clean Pure Air up to 35 pounds pressure.

Open the valve in handle "L" by turning the knurled ring "R" to the left.

Set the pointer on "Pressure Regulator" to the Pressure side.



Spray to Throat



Eustacheon Tube Opener

Attach spray bottle desired to the tapered end of handle. Press the *red* button on the "Motor Switch," and regulate the pressure and resultant spray by turning knurled collar "R" to the right to increase and to the left to decrease. To release the pressure, instantly, pull the collar "R" down.

Always make it a point to have the *valve* in the pressure handle *open* before starting the motor.

**Fluid Heater** Maintains Heat of the Solutions in the Bottles at proper temperature for instant use.

It is advisable to warm the fluids in the bottles before application—hence, press the *red* button on the Heater Switch a moment or two before using the sprays. This will warm the bottles and contents to body temperature quickly.

**Suction** The Vacuum side of the Style "F" Cabinet has a number of uses:

For Bier's Passive Hyperemia Technic,

Nasal and Sinus Evacuation,

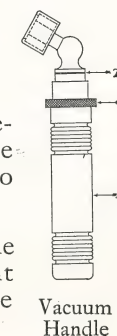
As Assistant in Mastoid Surgery,

For Draining during Tonsillectomy, and

For Boils, Carbuncles and Infections.

To obtain Vacuum for using the various Cupping devices start the motor by pressing the *red* button on the motor switch. Set the indicator on "vacuum regulator" to farthest point marked "vacuum".

The glass cups are attached by pressing the end into the soft rubber bushing in the Vacuum Handle with a slight turning movement. The rubber cups are attached with the small No. 1573 metal piece in the same manner.







Application Suction

The Handle "M" is arranged to separate at the joint "T" for inserting gauze or cotton, when the suction is to be used for extracting Pus or similar substance. When a quick release of Vacuum is required, press the collar "R" down.

The Glass Vacuum Cups Nos. 1500A, B, and C are for use over smooth flat surfaces, and the semi-flexible Rubber attachments, Nos. 1555 and 1556, will be found very desirable where edges and angles are encountered. Any other devices ever gotten up by, or for, Dr. Bier can be attached and used to advantage from this source.

There can be no mistake in making connections with either the Vacuum or Pressure devices, as Vacuum attachments will not fit the Pressure Handle, and vice-versa.

**Suction-Vibration** By turning the Vacuum Regulator to the farthest point toward "Vibration" you will notice that although there is still some sucking effect, it pulsates rapidly. By turning this controller to the right or left any degree of Vacuum or Vacu-Vibration may be obtained.

This Vacu-Vibration is indicated wherever a superficial local hyperemic condition is desired. A careful study of this modality will reveal almost endless possibilities. Invaluable for development of flabby tissues and muscles.



Vacu-Vibration

**Heated Air** Air that can be applied at *any desired temperature*, and from a faint breeze up to *35 pounds pressure*, is available from the Style "F". It is especially useful in:

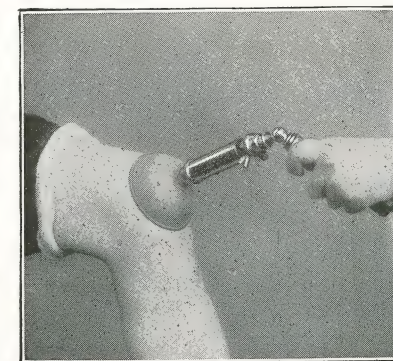
Relieving Ear Ache,  
Removing Wax from the Ear,  
Drying Cavities,  
Tubal Catarrh,  
Trigeminal Neuralgia,  
Stenosis of the Middle Ear,  
Ankylosis of the Staples, as well as for Muscular Contraction, Sprains, Bruises, etc.

To obtain Heated Air—slip the tapered end of handle "L" into the tapered socket in the heater (see "A" on heater diagram), with a slight twisting movement, leaving the binding posts in any convenient position.

Next, connect the Cautery Cords to posts "B" and "B1" on the heater and to the Cautery posts on the cabinet. This Cautery Circuit is of very low voltage, and there is absolutely no danger of any electrical shocking either to operator or patient, even though you touch both binding posts and the body of the heater at the same time.

Start the motor, set the indicator to "Pressure", and allow the air to pass through the heater. Regulate the heat as you would for the cautery knife, by advancing and retarding lever "V". It may appear necessary to use the full power of the circuit to generate the desired heat, to start, but after a moment you will find that a sufficient temperature may be maintained on button 6 or 7.

The Air Spreader attachment No. 1572 is arranged to screw into the heater at point "C", and it is provided with outlets on the sides, only to prevent a concentrating of the heat to any one small section under treatment, which would become unbearable, but which would result if the air were allowed to pass straight through. As a result, you will find that when the Rubber caps are slipped on the outer edge will become just as warm as the center.



Heated Air on Knee



When through with the heater *cut off the current first*—then shut off the air.

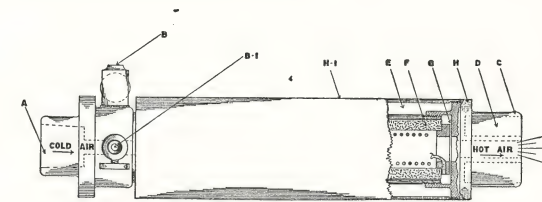
You will readily see from the above that the Heat, as well as the volume of Air, is under positive control at all times.



Heated Air to Ear

#### Air Heater Instructions

- A—Socket for Air Connection.  
B—and B<sub>1</sub>—Binding Posts for Electrical Connections.  
C—Support for the Air Spreader and Rubber Cups.  
D—and E—Air Chambers to keep outer walls cool.  
F—Removable Heating Element.  
G—Contact Point for Heating Element.  
H—Knurled edge to hold when removing Element.  
H<sub>1</sub>—Outer Chamber Cover.



No. 157. Air Heater

Continued contraction and expansion, caused by the repeated heating and cooling, is apt to loosen the Heat Unit "F". When this occurs, as indicated by a loss of heating effect, tighten the Unit Contacts by holding fast the binding post end, and screwing tight the tube "H".

**Heat and Vibration** Bring instant relief from:  
Lumbago,  
Chronic Catarrhal Deafness,

Superficial Pains,  
Ankylosed Joints, etc.

Heat with a light Vibration will increase Elimination by opening the pores, and generally stimulate surface activity. A greater degree of Heat can be borne when Vibration is applied at the same time.

This application is especially useful where the seat of pain is near the surface, for loosening muscular contractions.

The combination of Heated Air and Vibration is obtained in the same manner as the "Heat" described in the foregoing, with one exception: the indicator should be set to "Vibration" instead of pressure, and, as more air is required, gradually turn this controller toward the Pressure side. The rubber cup acts as the vibratode.

**Vibration And Sound Applied Simultaneously** When the Vibratode No. 1550 is covered with a thin rubber dam, three layers, and slotted properly, and used with the air from the style "F" Cabinet, the effect at various settings is not only Vibratory but Sound Waves also are produced.

This combination, as you can determine easily by a few applications, fills a long felt want for the physician. (See catalog No. 1567—rear of this booklet.)

**Atomizer** For spraying any Liquid, Oil or Aqueous,  
For Cleansing,

Blowing Secretions from the Tonsils,  
Spraying any Curative Agents,  
For Bronchitis, Laryngitis, Pharyngitis, and  
Generally invaluable for Nose and Throat work.

Operate in connection with the pressure handle, regulating the flow by means of the control collar.



**Nebulizer** For Vaporizing.  
Especially valuable for Inhalations for Treatment of the Mucous Membranes.  
Operate same as Atomizer.

**Powder** For Spraying Antiseptic Powder over open Wounds.  
**Blower** Operate same as Atomizer.

**Eustacheon** For applying Pressure to the Eustacheon Tube, and  
**Tube Opener** for Inflation of the Middle Ear and Lungs.

NOTICE:—Any product containing rubber, whether wholly or in part, is bound to deteriorate with age. There is nothing one can do to prevent this loss of effectiveness, and we wish it understood that replacements cannot be made gratis. If the rubber goods shipped with this Apparatus lose their effectiveness, we will be glad to furnish new parts at the list prices mentioned in the back of this booklet.

## These Modal

Page 51

### ATOMIZER

For spraying any liquid, oil or aqueous solution.  
Invaluable for Nose and Throat work.

Page 36

### SINUSOIDAL

Sedative and Analgesic

Is indicated in:  
Muscular Atony, Atrophied conditions  
Many forms of Paralysis, Muscles and  
Congestion of the Viscera, sluggish circulation  
Intestinal Stasis, Venous Blood

Page 39

### CAUTERY (ELECTRIC)

For removal of small Fibrous Growths.  
Instantly stops bleeding (Hemorrhage).

Page 40

### DIAGNOSTIC LAMP

Invaluable in Ear, Nose, Throat and Frontal Sinus  
Examinations.  
Used for observation in any Orifice.

Page 32

### AUTO-CONDENSATION

Is sedative.  
Reduces High Blood Pressure.  
Increases Metabolism and Body Heat.

For use in:  
Neurasthenia, Leukemia,  
Arterio-Sclerosis, Menopause,  
Dysmenorrhea, Insomnia.

Page 47

### SUCTION

For Bier's Passive Hyperemia Technique,  
Nasal and Sinus Evacuation, and  
As assistant in Mastoid Surgery.  
For draining during Tonsillectomy,  
And for Boils, Carbuncles, and

Page 48

### SUCTION-VIBRATION

For the development of flabby tissues and

Page 6

### HIGH FREQUENCY

Dilates the Blood Vessels.  
Increases the Blood Supply to a given area.  
Increases Oxidation and Oxygenation.  
Promotes absorption of Exudates.  
Liberates Ozone.

For use in:  
Acne, Eye Strain,  
Skin Ulcers, Lumbago,  
Eczema, Pyorrhea,  
Blepharitis, Uterine Enlargement

Page 30

### FULGURATION (DESICCATION)

A dehydrating process.

A successful treatment for all accessible lesions  
of the skin and mucous membranes.  
It is curative in localized malignant lesions.  
For use in:  
The removal of Bladder Papilloma, Desiccation of  
Lupus Vulgaris, Warts,

Page 43

### OZONE

Increases the Oxygenation of the Blood

For use in:  
Conditions of imperfect Asthma,  
Oxidation and impaired Bronchitis,  
Nutrition, As a spray  
Tuberculosis, Ulcers, and  
Anemia, As a general



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# These Modalites are further described on pages as indicated

**Page 51**

**ATOMIZER**  
For spraying any liquid, oil or aqueous.  
Invaluable for Nose and Throat work.

**Page 36**

**SINUSOIDAL**  
Sedative and Analgesic  
Is indicated in:  
Muscular Atony. Atrophied condition of the  
Many forms of Paralysis. Muscles and Nerves, and  
Congestion of the Viscera, sluggish circulation of the  
Intestinal Stasis. Venous Blood.

**Page 39**

**CAUTERY (ELECTRIC)**  
For removal of small Fibrous Growths.  
Instantly stops bleeding (Hemorrhage).

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**DIAGNOSTIC LAMP**  
Invaluable in Ear, Nose, Throat and Frontal Sinus  
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Used for observation in any Orifice.

**Page 32**

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Is sedative.  
Reduces High Blood Pressure.  
Increases Metabolism and Body Heat.  
For use in:  
Neurasthenia, Leukemia,  
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Dysmenorrhea, Insomnia.

**Page 47**

**SUCTION**  
For Bier's Passive Hyperemia Technic,  
Nasal and Sinus Evacuation, and  
As assistant in Mastoid Surgery.  
For draining during Tonsillectomy.  
And for Boils, Carbuncles, and Infections.

**Page 48**

**SUCTION-VIBRATION**  
For the development of flabby tissues and muscles.

**Page 6**

**HIGH FREQUENCY**  
Dilates the Blood Vessels.  
Increases the Blood Supply to a given area.  
Increases Oxidation and Oxygenation.  
Promotes absorption of Exudates.  
Liberates Ozone.  
For use in:  
Aene, Eye Strain,  
Skin Ulcers, Lumbago,  
Eczema, Pyorrhea,  
Blepharitis, Uterine Diseases, and  
Enlarged Tonsils.

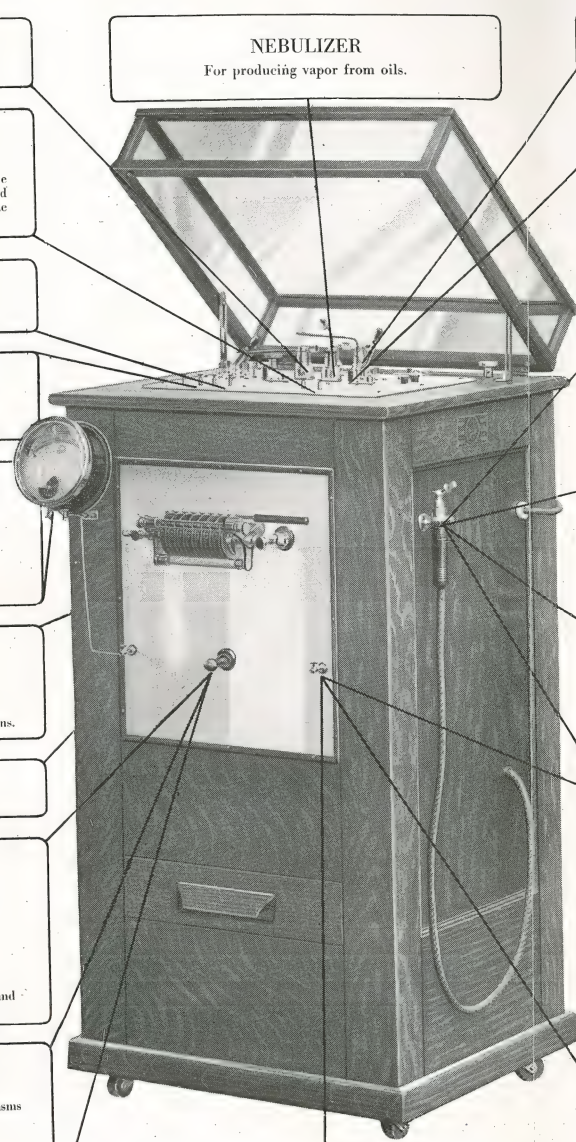
**Page 30**

**FULGURATION (DESICCATION)**  
A dehydrating process.  
A successful treatment for all accessible benign neoplasms  
of the skin and mucous membranes.  
It is curative in localized malignant lesions.  
For use in:  
The removal of Bladder Papilloma, Desiccation of Tonsils,  
Lupus Vulgaris, Warts, Moles, etc.

**Page 43**

**OZONE**  
Increases the Oxygenation of the Blood and Tissues.  
For use in:  
Conditions of imperfect Asthma,  
Oxidation and impaired Bronchitis, and  
Nutrition. As a spray for Surface  
Tuberculosis, Ulcers, and  
Anemia, As a general stimulant.

**Page 52**



**NEBULIZER**  
For producing vapor from oils.

**Page 52**

**POWDER BLOWER**  
For spraying antiseptic powder over open wounds.

**Page 50**

**SPRAY HEATER (ELECTRIC)**  
Maintains heat of solutions in bottles at proper temperature  
for instant use.

**Page 45**

**VIBRATION**  
Produces Hyperemia.  
Promotes the secretion of bile.  
Very perceptibly stimulates the cutaneous functions.  
Relieves Muscle Strain and many forms of Backache.  
Is useful in:  
Anemia, Fatty Degeneration,  
Appendicitis, Muscular Rheumatism, and  
Ataxia, Neuralgias,  
Constipation.

**Page 51**

**HEATED AIR AND VIBRATION**  
Brings instant relief from Lumbago,  
Superficial Pains,  
Chronic Catarrhal Deafness, and  
Ankylosed Joints.

**Page 49**

**HEATED AIR**  
Is useful in:  
Relieving Ear Ache, Cases of Trigeminal Neu-  
Removing wax from the ear, ralgia, and  
Drying Cavities, Ankylosis of the Stapes.  
Tubal Catarrh.

**Page 46**

**COMPRESSED AIR**  
For operating Nebulizers, Atomizers and Powder Blowers,  
Eustacheon Tube Opener,  
Parresine Wax Sprayer,  
Pneumatic Vibrator, and  
Other uses for clean pure air up to 35 pounds pressure.

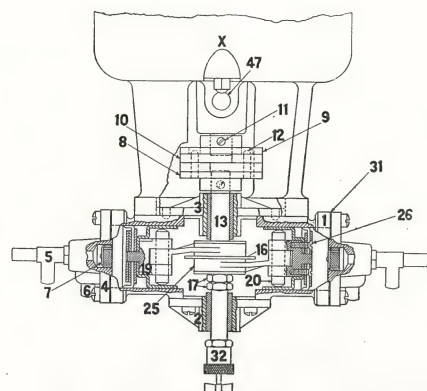
**Page 13**

**MEDICAL DIATHERMY**  
Produces internal heat.  
Increases oxygen and red blood cells.  
Stimulates the Vasomotor Nerves.  
Offers relief of Venous and Visceral Congestion.  
Creates an Internal Poultice.  
Has marked Analgesic Properties.  
Stimulates Cells and Glands.  
Used in:  
Post-operative Abdominal Adhesions, Muscular Atrophy,  
Inflamed or Enlarged Prostate, Paralysis Agitans,  
Pulmonary Tuberculosis, Ankylosed Joints,  
Bronchial Congestion, Neuralgia, Angina Pectoris,  
Gonococcal Infection, Arthritis,  
Chronic Urethritis, Neuritis, and Sciatica.

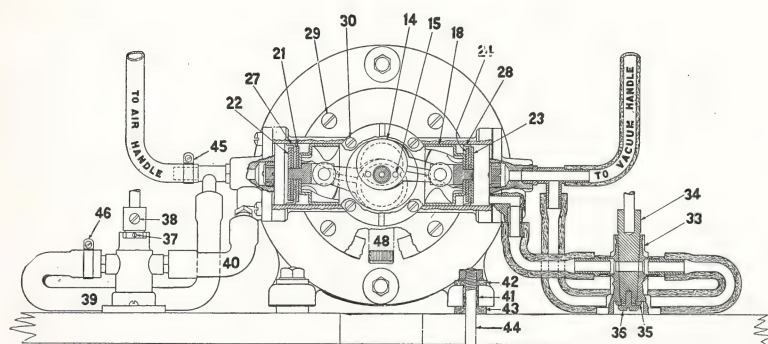
**Page 24**

**SURGICAL DIATHERMY**  
Operations are bloodless.  
There is little surgical shock.  
The parts are thoroughly sterilized.  
Tumors otherwise inoperable may be safely removed.  
The operations are quickly done, and post-operative ad-  
hesions are rare.  
Patient convalesces rapidly.  
For use in:  
Destruction of Diseased Tissue and New Growths, Uterine Fibroids,  
Tumors of the Uterus and Throat and Cervix,  
Bladder, Superficial Lesions,  
Chronic or Malignant Ulcerations, Vascular Tumors,  
Cancer of the Uterus, Rodent Ulcers, and  
Canterization.





Pump—Top View



Pump—End View

## Motor and Pump Parts

Part No.	Description	Stock Piece No.
1—	Main Cylinder Frame.....	P101F
2—	Front Bearing Head.....	P102G
3—	Rear Bearing Head.....	P103G
4—	Cylinder Head.....	P104F
5—	Cylinder Head Double Nipple.....	P107F
6—	Cylinder Head Single Nipple.....	P108
7—	Cylinder Head Valve.....	P136½G

8—	Coupling Front Flange.....	P109F
9—	Coupling Rear Flange.....	P110F
10—	Coupling Links.....	P111
11—	Coupling Set Screw.....	P118A
12—	Coupling Drive Pin.....	P112
13—	Main Shaft and Eccentric.....	P123F
14—	Main Shaft Removable Eccentric.....	P125
15—	Main Shaft Removable Eccentric Pin.....	P126
16—	Main Shaft Eccentric Guide Washer.....	P124
17—	Main Shaft Eccentric Lock Nut.....	P138
18—	Piston Follower.....	P119½
19—	Wrist Pin Connecting Block.....	P139
20—	Connecting Rod Wrist Pin.....	P120½
21—	Large Piston Washer (Pressure).....	P129
22—	Small Piston Washer (Pressure).....	P132
23—	Large Piston Washer (Vacuum).....	P130
24—	Small Piston Washer (Vacuum).....	P131
25—	Connecting Rod.....	P121G
26—	Piston Washer Fastening Screw.....	4043
27—	Piston Cup (Pressure).....	P133½
28—	Piston Cup (Vacuum).....	P133
29—	Fastening Screw—Pump to Motor.....	4161
30—	Cylinder Head and Bearing Head Fastening Screw.....	4117
31—	Cylinder Head Packing Ring.....	P134
32—	Grease Cup.....	P128
33—	Control Valve Body.....	P113F
34—	Control Valve Plug.....	P114
35—	Control Valve Plug Washer.....	P115
36—	Control Valve Plug Screw.....	P116
37—	Control Valve Plug Stop Pin.....	P117
38—	Control Valve Rod Set Screw.....	4067
39—	Hose Connection—Control Valve to Pump (Long).....	P140
40—	Hose Connection—Control Valve to Pump (Short).....	P141
41—	Noise Dampening Bushing.....	P142
42—	Noise Dampening Top Washer.....	P143
43—	Noise Dampening Lower Washer.....	P144
44—	Motor Fastening Bolt.....	3407
45—	7/16 Inch Hose Clamp.....	P190G
46—	9/16 Inch Hose Clamp.....	P191G
47—	Motor Oil Cup (Top).....	
48—	Motor Grease Cup (Bottom).....	
X Indicates the Driving Motor.		
Nos. 4, 5, 6 and 7 comprise	Pressure Cylinder Head, complete.....	P104G1
Nos. 4, 5, 6 and 7 for complete	Vacuum Cylinder Head.....	P104G2
Nos. 8 and 9, and 4 each 10, 11 and 12	comprise Coupling, complete.....	P109G
Nos. 13, 14 and 16, and 2 each 15 and 17	comprise Main Shaft, complete.....	P123G
Nos. 18, 19, 20, 21, 22, 24, 25 and 27, and 2 of No. 26	comprise Pressure Piston and Connecting Rod, complete.....	P119½G
Nos. 18, 19, 20, 23, 24, 25 and 28, and 2 of No. 26	comprise Vacuum Piston and Connecting Rod, complete.....	P120½G
Nos. 33, 34, 35, 36, 37 and 38, and 2 of No. 6	comprise Control Valve, complete.....	P113G



**The Motor And Pump** In the construction of any piece of oscillatory mechanism, two features are always paramount; the first to be considered is absolute equilibrium in the balance of the parts, and the second is the importance of keeping these parts thoroughly greased.

In the Thompson-Plaster Pump these points have been given careful consideration, and to insure all portions of the Pump being properly greased, we have simplified the problem by placing but *one* Grease Cup for the attention of the operator. This Grease Cup No. 32 is conveniently placed, and is the only port of entry for grease in the entire Pump.

**Oiling of Pump** The Grease Cup No. 32 is conveniently reached by removing the back of the Cabinet. The Machine is shipped with the Grease Cup well filled, and should be refilled with the grease supplied with the Outfit after every approximate hour's run. Turn the handle on the cup a full turn to the right (clockwise) and when the piston in the cup reaches the bottom, unscrew the knurled cap through which this handle passes, screw back the piston all the way, fill the cup with grease, re-insert the piston and screw the cap tight. Grease is carried in stock and can be furnished on order in 10 and 60 cent tin containers.

**Oiling of Motor** The Motor requires little attention. Under the bearing at each end you will find a Grease Cup into which a wick is inserted to carry the lubricating material upward to the revolving shaft. On the top of the motor bearings, directly above these cups (No. 48), will be found a smaller oil opening with a spring cover (No. 47).

A few drops of oil, once every 10 days, dropped into these openings (No. 47) will suffice to keep the Motor running perfectly, but to obviate the necessity of oiling every 10 days, remove the grease cups entirely after a few weeks' run, wash them thoroughly in benzine, refill with the grease furnished, see that the end of the wick is clean, re-insert and your motor is ready for another six months' period.

The rear oil cup is accessible after removing the back panel, and the front oil cup after removing the lower drawer of the Cabinet.

Do not use a light sewing machine oil for this purpose. Use a medium grade of oil such as used for automobile cylinder lubrication, as the lighter oils have no body and are not sufficiently stable for the purpose intended. Pay especial attention to this detail. Again, never oil a revolving piece of mechanism while running at high speed as the oil will merely bubble out and not reach the bearing intended.

**Motor and Pump Instructions** In the design of the Fischer-Thompson-Plaster Pump exceptional care was given to eliminate all possible vibration. The twin pistons, operating in opposing directions, make a perfect balance, although one delivers Pressure while the other furnishes Vacuum.

Bronze, of the quality insisted on by our Government, only, is used in the making of the bearings and the piston connecting rods.

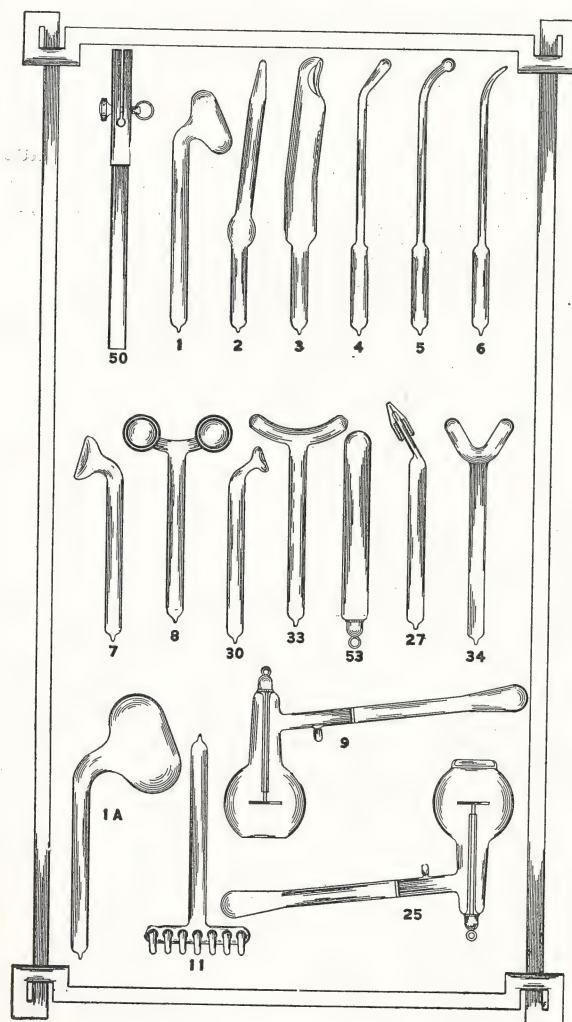
The connecting links are of leather, obviating the necessity of belts, gears or chain drive, and although we produce high Pressure, a quite considerable Vacuum and heavy Vibration, our product combines power, efficiency and smooth noiseless operation.

The Valves permitting vibration from either the "Pressure" or "Vacuum" sides are positive in action. All parts are made interchangeable and should replacements become necessary, order by name and number as indicated on Motor and Pump diagram. Worn parts will be replaced at a moderate cost; faulty parts will be covered by our guarantee, as written.

On the following pages will be found illustrations, descriptions and prices of numerous accessories and supplies for use with the Style "F" Combination Treatment Cabinet.



## Glass Vacuum High Frequency Electrodes



## High Frequency Electrodes

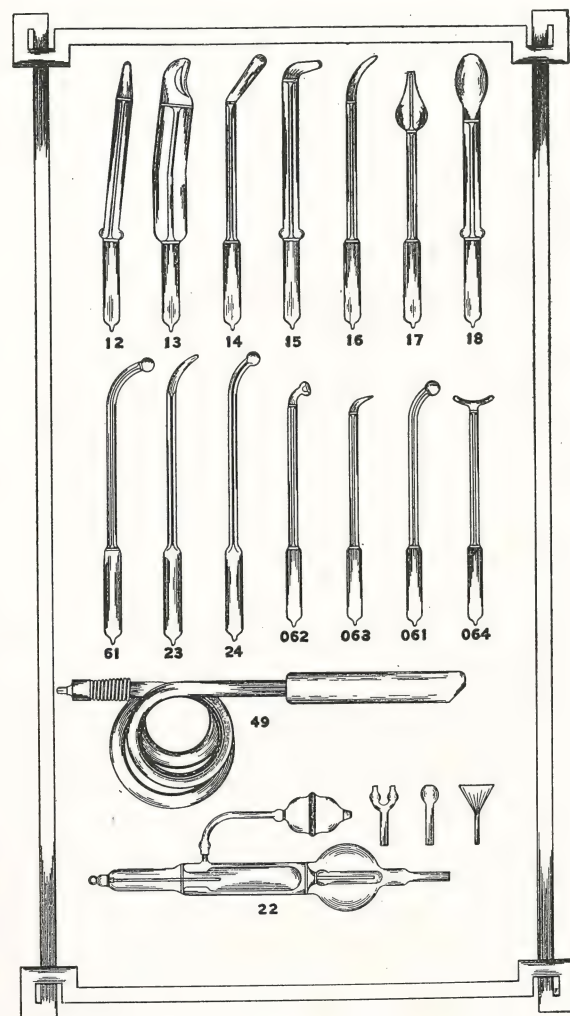
All our glass High Frequency electrodes are made by us, of the very best glass obtainable; carefully annealed. All sizes and makes of holders can be fitted on request, but unless otherwise specified our standard  $\frac{5}{8}$ " size is furnished on all orders. While the plain electrodes suffice very well for all surface or superficial cavity work, the insulated electrodes are much to be preferred where deep seated areas are to be reached. The energy is confined to certain small areas only, and the section treated without leakage or waste of current.

All of our electrodes are standard  $\frac{5}{8}$ " size, unless otherwise specified. The O before any number signifies  $\frac{1}{2}$ " stem.

Description		Code	
1—Surface	—Plain	<i>Bacca</i>	.75
1A Surface	—Plain	<i>Gram</i>	1.50
2—Rectal	—Plain	<i>Bagot</i>	.65
3—Vaginal	—Plain	<i>Ballet</i>	.85
4—Nasal	—Plain	<i>Balm</i>	.65
5—Throat	—Plain	<i>Baric</i>	.65
6—Urethral	—Plain	<i>Bark</i>	.65
7—Eye, Single	—Plain	<i>Barley</i>	.75
8—Eye, Double	—Plain	<i>Basal</i>	1.25
9—Metal Disc Body		<i>Basic</i>	3.50
11—Comb (Scalp)		<i>Batia</i>	1.75
25—Cataphoresis		<i>Binder</i>	4.50
27—Glass Fulguration		<i>Guad</i>	1.75
30—Corn		<i>Biogen</i>	.75
33—Outer Throat		<i>Biotic</i>	.75
34—Spinal		<i>Bite</i>	.75
050—Universal Handle, $\frac{1}{2}$ "		<i>Boldo</i>	1.00
50—Universal Handle, $\frac{5}{8}$ "		<i>Bolus</i>	1.00
53—Glass Handle for Indirect Treating		<i>Bismal</i>	1.25
56—Adjustable Handle		<i>Boman</i>	1.50



## Insulated Glass High Frequency Electrodes



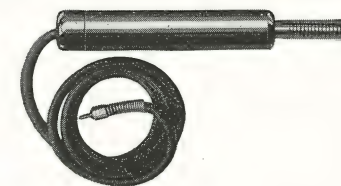
## Insulated Glass High Frequency Electrodes

No.	Description	Code	
12—Rectal	—Insulated.....	<i>Bazin</i>	1.60
13—Vaginal	—Insulated.....	<i>Beat</i>	1.85
14—Nasal	—Insulated.....	<i>Bed</i>	1.60
15—Post Nasal	—Insulated.....	<i>Beef</i>	1.60
16—Urethral	—Insulated.....	<i>Bela</i>	1.60
17—Inner Ear	—Insulated.....	<i>Belt</i>	1.60
18—Tongue	—Insulated.....	<i>Benzol</i>	2.00
21—Ozone Generator, only.....		<i>Bidet</i>	7.50
22—Ozone Generator, complete.....		<i>Bidwy</i>	10.00
23—Special Heavy Glass Urethral.....		<i>Gull</i>	1.00
24—Special Heavy Glass Throat.....		<i>Gum</i>	1.00
36—Insulated Prostatic Electrode.....		<i>Inpros</i>	2.75
37—Adenoid Electrode—Insulated (Murray).....		<i>Maner</i>	2.00
o49—Insulated Rubber Handle and Cord. $\frac{1}{2}$ ".....		<i>Blind</i>	2.25
49—Insulated Rubber Handle and Cord. $\frac{5}{8}$ ".....		<i>Block</i>	3.75
61—Throat—Insulated.....		<i>Breath</i>	1.50
o61—Insulated Dental Pyorrhea, $\frac{1}{2}$ ".....		<i>Brein</i>	1.50
o62—Insulated Dental Cocain, $\frac{1}{2}$ ".....		<i>Bridge</i>	1.50
o63—Insulated Dental Cavity, $\frac{1}{2}$ ".....		<i>Bridle</i>	1.50
o64—Insulated Dental Outer Gum, $\frac{1}{2}$ ".....		<i>Brim</i>	1.50

## Insulated Shock Proof Handle for High Frequency Electrodes

Many operators complain of the danger of shocking either themselves or their patients with our regular No. 50 Handle, on account of the exposed metal connection. We therefore designed this special Insulated Handle, which has no exposed contacts and is absolutely shock proof. Made entirely of one piece of hard rubber, with the heavy insulated connecting cord fastened securely to the spring brass clamp inside.

No.		Code	
o49—For $\frac{1}{2}$ " Electrodes.....		<i>Blind</i>	2.25
49—For $\frac{5}{8}$ " Electrodes.....		<i>Block</i>	3.75



80—Extra Long Protected Handle.....	<i>Blesp</i>	6.50
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## Non-Vacuum High Frequency Electrodes

The Silvered "Non-Vacuum" Tubes are made in the same sizes and designs as the regular cataloged Vacuum Electrodes described in the foregoing. Plain or Insulated will be furnished, as ordered.

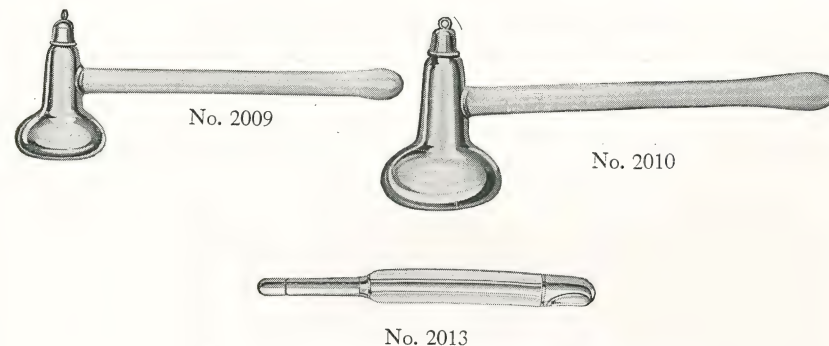
No.	Description	Code	Price
2001—Surface	—Plain—2 inch face.....	<i>Rabat</i>	7.50
2002—Rectal	—Plain.....	<i>Rabid</i>	7.50
2003—Vaginal	—Plain.....	<i>Racer</i>	7.50
2004—Nasal	—Plain.....	<i>Raket</i>	7.50
2005—Throat	—Plain.....	<i>Radle</i>	7.50
2006—Erethral	—Plain.....	<i>Radio</i>	7.50
2007—Eye	—Single.....	<i>Radex</i>	7.50
2008—Eye	—Double.....	<i>Raflo</i>	7.50
2009—Surface	—Condenser Type, Med...	<i>Raged</i>	7.50
2010—Surface	—Condenser Type, Lge...	<i>Rally</i>	7.50
2011—Comb	—Scalp.....	<i>Ramie</i>	7.50
2012—Rectal	—Insulated.....	<i>Ranch</i>	7.50
2013—Vaginal	—Insulated.....	<i>Randy</i>	7.50
2014—Nasal	—Insulated.....	<i>Range</i>	7.50
2015—Post Nasal	—Insulated.....	<i>Rapid</i>	7.50
2016—Urethral	—Insulated.....	<i>Rasal</i>	7.50
2017—Inner Ear	—Insulated.....	<i>Ratan</i>	7.50
2018—Tongue	—Insulated.....	<i>Ravel</i>	7.50
2023—Urethral	—Special Heavy Glass....	<i>Razee</i>	7.50
2024—Throat	—Special Heavy Glass....	<i>Razor</i>	7.50
2025—Cataphoresis.....		<i>Reach</i>	7.50
2027—Fulguration.....		<i>Ready</i>	7.50
2029—Fulguration	—Platinum Tipped.....	<i>Realm</i>	7.50
2030—Corn	—Small Depression.....	<i>Rebec</i>	7.50
2033—Outer Throat.....		<i>Rebus</i>	7.50
2034—Spinal.....		<i>Recal</i>	7.50
2036—Prostatic	—Insulated.....	<i>Recto</i>	7.50
2052—d'Arsonval Handle.....		<i>Redan</i>	7.50
2053—Handle for Indirect Treating.....		<i>Reduc</i>	7.50
2058—d'Arsonval Handle—Extra Large.....		<i>Reefy</i>	7.50
2061—Dental Pyorrhea	—Insulated.....	<i>Refit</i>	7.50
2062—Dental Cocain	—Insulated.....	<i>Reign</i>	7.50
2063—Dental Cavity	—Insulated.....	<i>Reims</i>	7.50
2064—Dental Outer Gum	—Insulated.....	<i>Relax</i>	7.50

These Electrodes, with exception of Nos. 2009, 2010, and 2025 will have our regular  $\frac{5}{8}$ " shanks.

Nos. 2009, 2010 and 2025 have Insulated Handles blown on the electrodes themselves.

Non-Vacuum Tubes may be had to fit the  $\frac{1}{2}$ " Handles by placing "O" before catalog number when ordering except those which have handles attached.

## Non-Vacuum High Frequency Electrodes



No. 2009

No. 2010

No. 2013

## Universal Handle for High Frequency Electrodes

Insulated section made of hard pressed fiber, having nickel plated brass spring clamp on end for holding Electrodes firmly in position. Large swivel ring connector to which is hooked the insulated cord, permits of perfect freedom of movement. Made in two sizes.

No.	Code	Price
050—For $\frac{1}{2}$ " Electrodes.....	<i>Boldo</i>	1.00
50—For $\frac{5}{8}$ " Electrodes.....	<i>Bolus</i>	1.00



## Adjustable High Frequency Handle

Nickel plated clamp on end of long fiber insulated handle is arranged to swivel freely as desired to any angle. A very convenient arrangement especially for orificial work.

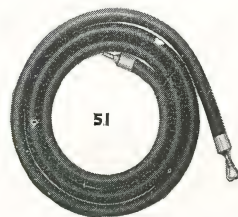


No.	Code	Price
56—.....	<i>Boman</i>	1.50



**High Frequency Cord—Heavy Insulated**

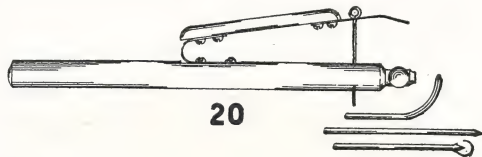
This cord is made of a stranded Copper conductor, covered with several layers of pure Gum Rubber. It is perfectly safe to touch any part of this cord even when passing considerable current, as the Rubber covering is heavy enough to afford ample protection. Cord is very flexible. At one end is mounted our standard cord tip, which will fit any of our machines. On the other end is fastened a swivel clasp.



No.	Code	Price
51 —Heavy Cord, 4' long.....	<i>Gait</i>	1.25
51-5—Heavy Cord, 5' long.....	<i>Hirtz</i>	1.40
51-6—Heavy Cord, 6' long.....	<i>Hoche</i>	1.55
51-7—Heavy Cord, 7' long.....	<i>Hodge</i>	1.70
83 —Extra Heavy Protected High Frequency Cord, 5" long.....	<i>Malle</i>	2.50

**Fulguration Electrode**

Fulguration is the best known method of applying the High Frequency Current for the removal of Warts, Moles and similar growths. When used in connection with a properly constructed machine, most excellent results can be obtained in removal of Neoplasms of the Urinary Bladder, and for the destruction of Cancerous Masses. Our No. 20

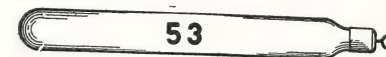


Electrode is supplied with three tips of different shapes for all surface work, and Rubber covered Steel Wire for introduction through Urethral Catheters or Cystoscopes will be furnished if desired.

No.	Code	Price
20—Fulguration Electrode and Three Tips.....	<i>Gadol</i>	2.00
40—Fulguration Wire, per foot.....	<i>Gag</i>	.10

**Glass Vacuum Handles**

For indirect treating with the high frequency current.



No.	Code	Price
53—Glass Handle.....	<i>Bismal</i>	1.25

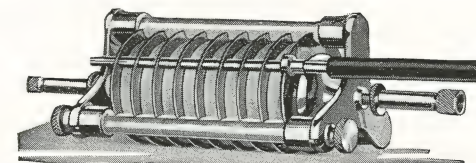
**Indirect Treatment Handles**

No.	Code	Price
54—Similar to No. 53, except that it is arranged to fit the No. 49 Shock Proof Handle. For In- direct Treating.....	<i>Banter</i>	.65
054—Same as No. 54, but made to fit the 049 Handle.	<i>Bantam</i>	.65

**Multiple Section Spark Gap**

This is a new type of Multiple Gap, designed for our Style "F" Type "L" and Military d'Arsonval Outfits. Made of eight sections, with the spark points entirely enclosed. It is not only noiseless in operation, but far in advance in efficiency of any other gap known.

This is a modification of the De Kraft Gap, but being air cooled and cleaned, all the objectionable features of the original types have been overcome. Each section has holes drilled for ventilation purposes, and the rods on either end are also drilled to allow a free passage of air through the entire gap. One end has a tapered opening to accommodate the tapered end of the pressure handle of the Style "F" Cabinet, and the other end is shaped to hold an air hose should there be no air pump in your outfit.



No.	Code	Price
432—Multiple Gap, Tungsten Spark Points.....	<i>Roman</i>	35.00



**Glass High Frequency "Valve"**

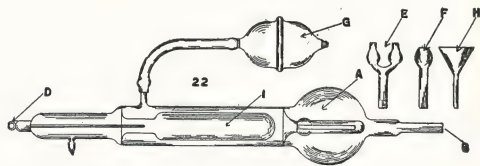
For inserting in the High Frequency line between machine and electrode being used. Permits the passage of practically the same Voltage, or length of sparks, as when "valve" is not in use, but reduces the milliamperage, or heating, very effectively.



No.	Code	Price
45—	<i>Egypt</i>	2.00

**Ozone Generator**

An ALL GLASS Ozonizer, made in one piece. Has two compartments, one for holding the purifying oils, and a vacuum chamber to which is connected the wire from any high frequency source.



No.	Code	Price
22—Ozone Generator, complete as illustrated.....	<i>Bidwy</i>	10.00
75—1 oz. Bottle Pine Needle Oil.....	<i>Malmo</i>	.40
76—1 oz. Bottle Eucalyptus Oil.....	<i>Malto</i>	.75

**Special Tonsil Fulguration Electrode**

No.	Code	Price
29—Special Throat Fulguration Electrode similar to our No. 23, with Platinum wire tip mounted in end.....	<i>Gerdy</i>	1.50

**Auto Condensation Couch Cushion**

To obtain the maximum efficiency from an Auto Condensation treatment, a perfectly designed and insulated pad or cushion must be employed. The Fischer Couch Cushion is made of Sea Moss covered with black leatherette with an electrode of zinc.

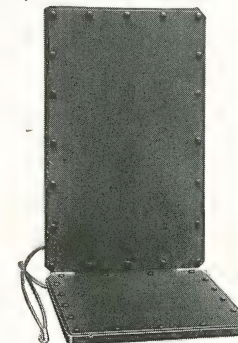
The Fischer cushion is fully two and one-half inches thick and so constructed that no part of the patient is in closer proximity to the charged plate than any other part during the treatment; the upholstery being uniform. Size over all, 22 inches wide and 62 inches long.



No.	Code	Price
420—Auto Couch Cushion.....	<i>Caffea</i>	30.00

**Auto Condensation Chair Pad**

Frame made of five-ply veneered oak. On one side is mounted a layer of conducting metal covered with a Di-Electric of one-eighth inch black sheet fiber. Pad is made in two sections to conform to the shape of an ordinary chair. Parts are hinged together to be used on a table should the operator prefer that position.

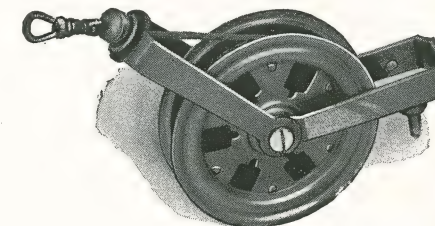


No.	Code	Price
410—Chair Pad .....	<i>Cado</i>	10.00

No. 410

**Rewind Cord Reels**

For making connections from the high tension terminals on the Cabinet to the High Frequency Tubes, especially when they are to be used at varying distances from the cabinet these Cord Reels are indispensable.



No. 528



They take up all slack wire, and yet allow the tube to be moved freely to any position without danger of breaking any connections. Smooth running, neat in appearance, and well made.

No.	Code	Price
528—Rewind Cord Reel, 8' Cord, each.....	<i>Fagin</i>	2.75

### Auto Condensation Handle

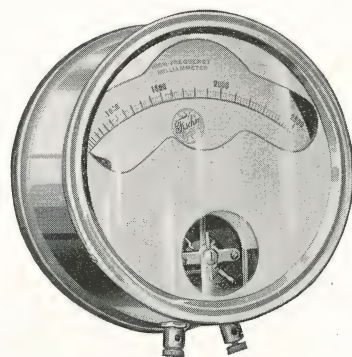
Made of brass tubing, heavy nickel plated; long enough and of sufficient diameter to enable the patient to grasp firmly and make contact. Arranged with binding post on end for fastening connecting wire.



No.	Code	Price
52—Handle 1" Diameter by 9" long.....	<i>Carota</i>	1.00
58—Handle 1½" Diameter by 16" long.....	<i>Authan</i>	2.00

### Fischer High Frequency Milliamper Meters— D'Arsonval Type

For measuring d'Arsonval and Diathermic currents we have designed special meters of the true "d'Arsonval" type, registering to 5000 millis.



No. 450

No.	Code	Price
449—Calibrated from 0 to 1500 Milliampères.....	<i>Exo</i>	27.50
450—Calibrated from 0 to 2500 Milliampères.....	<i>Exoda</i>	27.50
451—Calibrated from 0 to 5000 Milliampères.....	<i>Exner</i>	27.50

### Leyden Jars

Designed for use with our Style "F" Type "L" and Military High Frequency generators, but may be successfully used on any type of Resonator Outfit. Made of best quality glass, carefully coated.



No. 615

No.	Code	Price
615—Leyden Jar, complete as illustrated.....	<i>Hydat</i>	3.50
616—Leyden Jar, less Top and Carbon.....	<i>Laurel</i>	2.75

### Dr. Rogers' "Tycos" Self-Verifying Sphygmomanometer

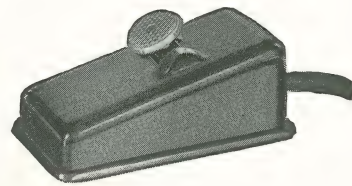
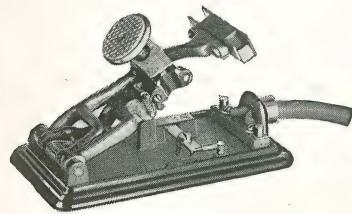
For accurately measuring both the Systolic and Diastolic Blood Pressures. Invaluable in connection with the d'Arsonval, High Frequency Auto-Condensation treatments.

No.	Code	Price
435—Sphygmomanometer.....	<i>Humor</i>	25.00



**Fischer Foot Switch (Improved)**

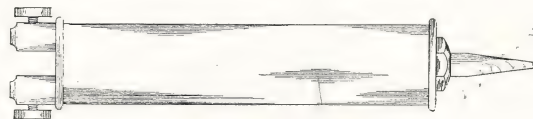
For X-Ray work, Fluoroscopy especially, and for High Frequency Fulguration, or, in fact, wherever an electrical current must be turned on or off repeatedly without the use of the hands, this improved Foot Switch will be found exceedingly convenient.



No.	Code	Price
400—Foot Switch (no cable).....	<i>Fant</i>	12.00
401—Foot Switch Cable—heavy.....	<i>Fall</i>	.20

**Eye Magnet**

Constructed to operate from any low voltage source, up to 10 volts.



No.	Code	Price
1568—Eye Magnet.....	<i>Acoon</i>	3.00

**Pilot Lamp**

An indicating lamp bulb used on most of our Portable and Cabinet Apparati.

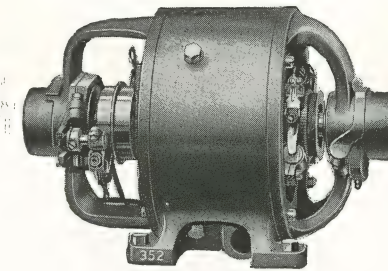
No.	Code	Price
325—Plain Bulb.....	<i>Larrup</i>	.30
326—Ruby Bulb.....	<i>Lodge</i>	.35

**Rotary Converters**

When direct current only is available it is necessary to install a rotary converter to operate any efficient high frequency machine.

Our 110 volt rotaries have a special booster winding which insures a full 110 volt A. C. when operated on 110 volts D. C.

Our 220 volt rotaries are tapped at the proper point to give 110 volts A. C. when operated on 220 volts D. C. This eliminates the use of separate step up or step down transformers and the loss of efficiency attending their use.

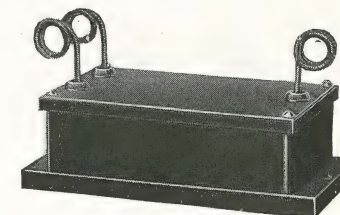


No. 952X

No.	Code	Price
952X—1000 Watt capacity—operating on 110 Volts D. C., and delivering 110 Volts 60 Cy. A. C. Designed for our Type "L," "Military" and Style "F" Cabinets.....		110.00
957X—1000 Watt capacity—operating on 220 Volts D. C., and delivering 110 Volts 60 Cy. A. C. (See No. 952X).....	<i>Enter</i>	125.00

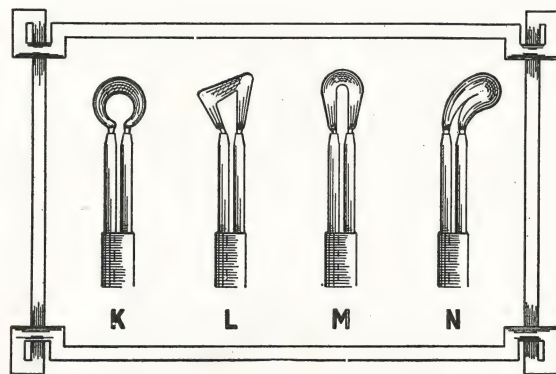
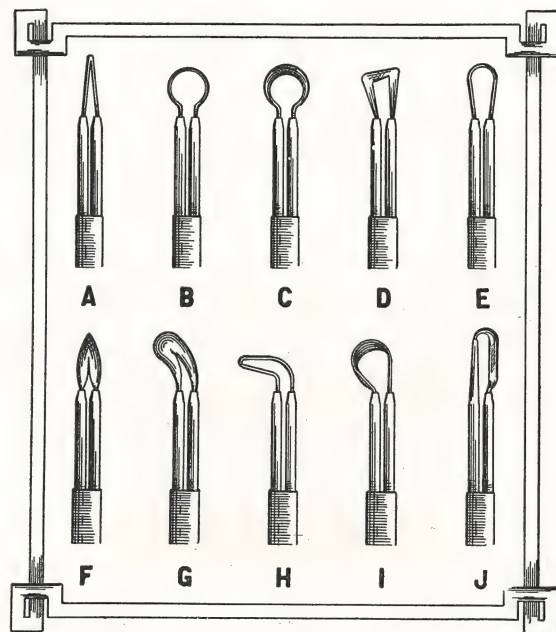
**Condenser (Static Arrester)**

Used in connection with Powerful High Frequency Apparatus for protection to line. Mounted on a slate slab, in a metal box.



No.	Code	Price
960—Condenser for A. C. Lines.....	<i>Tetort</i>	9.00
961—Condenser for D. C. lines as used across Rotary Converters.....	<i>Recopo</i>	9.00





No.		
305A to 305J—	.....	.80
305K to 305N—Heavy	.....	1.00
Codes <i>Acmea</i> , <i>Acmeb</i> , <i>Acme</i> , etc.		

### Cautery Knives

The carefully shaped knives are securely mounted into the copper bars. These knives are shaped to conform with most any requirements for all purposes. The copper bars are bound together with silk, enameled to withstand heating and handling indefinitely. Knives are made of a special alloy, of high electrical resistance.

### Cautery Handle

Made of Black Bakelite, a practically indestructible material. Arranged to hold the platinum tipped knives in any one of five positions. Has contact switch for convenience in operating.



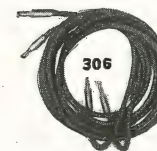
No. 301

No.	Code	Price
301—Cautery Handle.....	<i>Acetyl</i>	2.50

### Cautery Cords

Heavy copper conducting cords, constructed of many fine stranded wires, which are capable of carrying a very heavy amperage of current, and yet are very flexible and easy to handle. Covered with a woven, mercerized cotton sheeting, maroon colored.

Regular stock lengths, 6 feet. Special lengths to order.

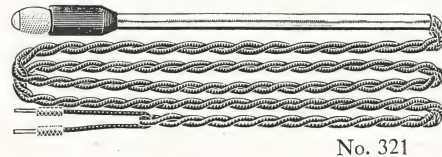


No.	Code	Price
306—Cautery Cords (Pair).....	<i>Achor</i>	1.00



**Diagnostic Illuminator and Shield**

Consisting of a long metal holder, with a green silk covered connecting cord, and a specially designed opal bulb with a lens blown in the end. This focuses an intense light to the area desired.



No. 321

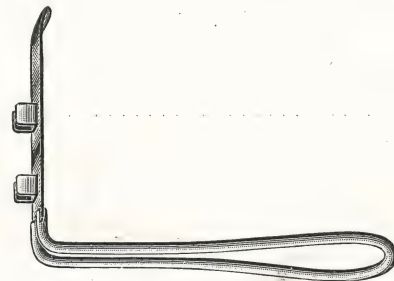


No. 324



No. 322

No.		Code	Price
321—	Illuminator, complete with Tungsten lamp....	<i>Analog</i>	2.50
322—	Extra Tungsten Bulb.....	<i>Acid</i>	.75
324—	Polished Nickel Plated Shield for No. 321.....	<i>Anashi</i>	.40



No. 330

No.		Code	Price
330—	Tongue Depressor.....	<i>Tongue</i>	1.00

**Spongio Discs and Handles**

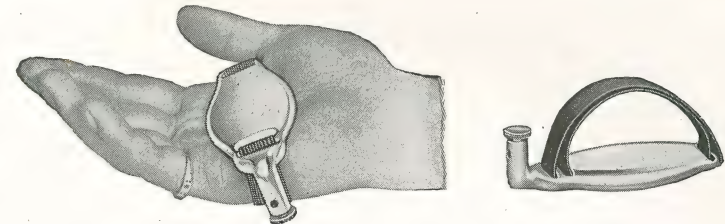
Universal Handle, hard rubber, with Felt covered disc.



No.		Code	Price
316—	Felt Pad Disc and Handle.....	<i>Carmin</i>	1.00

**Diathermy Hand Electrode**

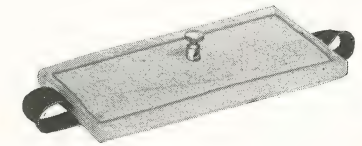
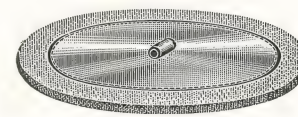
A most convenient method of applying the Diathermic Current by the hand, for local treatments. The rubber band holds the plate in close contact with the palm of the hand, and allows a free movement of the fingers for massage purposes. Carefully designed; all edges smoothly rounded and polished, making it an ideal and extremely convenient appliance.



No.		Code	Price
614—	Hand Electrode.....	<i>Grace</i>	1.40

**Diathermy Flexible Pad Electrode**

A flexible, Felt Pad, backed with pure block Tin. Can be adapted to most any shape. Has connection on back for fastening wire from machine.



No.		Code	Price
613—	Felt Pad Electrode—8"—Round.....	<i>Giddy</i>	2.00
690—	Felt Pad Electrode—3"x6".....	<i>Lasher</i>	2.00
Pad electrodes of odd sizes and shapes, made to order. Write us your requirements.			

**Clip for Block Tin Electrodes**

No.		Code	Price
688—	Includes binding post, insulating shank and spring clip as illustrated.....	<i>Infuse</i>	.75



**Block Tin**

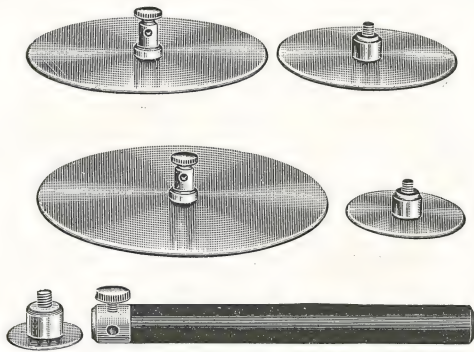
Block Tin .035 inches thick and 12 inches wide, can be purchased in any quantity, by the pound, a length of  $5\frac{1}{2}$  inches weighing approximately 1 pound.

Excellent for making Diathermy Electrodes of odd sizes, as the material is readily cut, and because of its flexibility can be bent to conform to any desired shape.

No.	Code	Price
692—(Pound).....	<i>Ingage</i>	.65

**Diathermy Electrodes**

For the application of the Diathermy High Frequency Current. Discs are made of  $\frac{1}{8}$  inch sheet brass, heavily Nickel Plated. Discs Nos. 606, 607 and 609 are interchangeable on the same set of rubber handles. No handles are necessary with Nos. 610 and 611.



No.	Code	Price
607—Diathermy Disc—1" diameter.....	<i>Goose</i>	.60
606—Diathermy Disc—2" diameter.....	<i>Faw</i>	.75
609—Diathermy Disc—3" diameter.....	<i>Graft</i>	1.00
610—Diathermy Disc—4" diameter.....	<i>Grain</i>	1.00
611—Diathermy Disc—5" diameter.....	<i>Gurgl</i>	1.25

Rubber Handle for Nos. 606, 607 and 609 Diathermy Discs, with post attachment on end for making connection from machine.

No.	Code	Price
606R—Rubber Handle.....	<i>Jecur</i>	.75

**Liquid Bath Connection**

For carrying the Sinusoidal or Diathermic Currents to water in trays, for treating the limbs. Connector lays flat in the fluid, and wire connection is made to binding post.

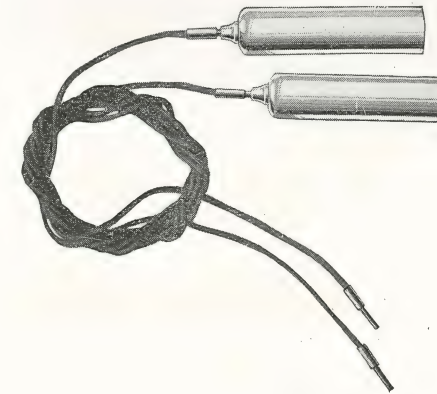


No.	Code	Price
618—Liquid Bath Connector.....	<i>Gleam</i>	.60

**Metal Treatment Handles**

Nickel plated handles, for Sinusoidal, Galvanic and Faradic treatments.

No.	Code	Price
311—Handles.....	<i>Caries</i>	.75



Nos. 311 and 312

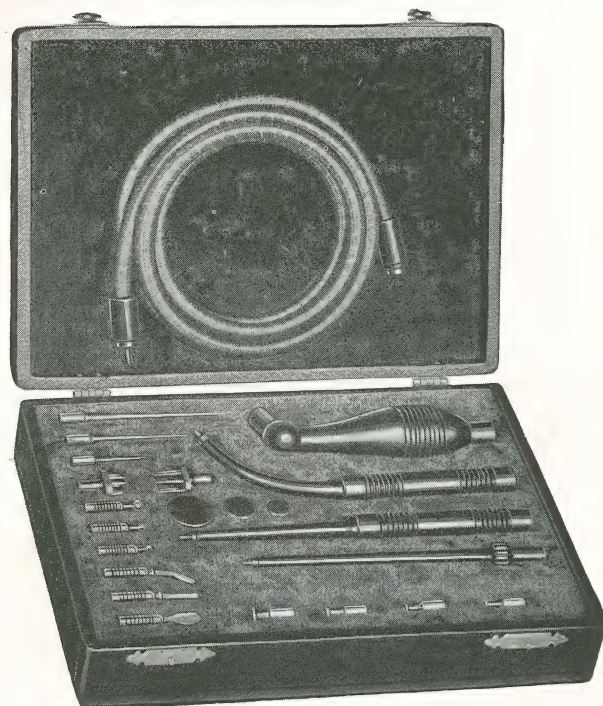
**Treatment Cords**

Made of very flexible Copper stranded wire, covered with a mercerized sheathing, maroon colored. Have metal tips on both ends.

No.	Code	Price
312—Cords.....	<i>Carol</i>	.60



## Surgical Diathermy Electrodes



No. 1300

Surgical Diathermy, the most recent development in the field of Electro or Physio-Therapy, needs somewhat of an introduction. It is the application of sufficient electrical energy for the actual destruction of tissue—a method of removing growths, quickly, bloodlessly, with little surgical shock, and with complete sterilization of the parts involved.

While it is inadvisable, in a catalog, to set forth lengthy treatment technic, especially when there are text books written by eminent authors which cover the subject, we list here the latest and most approved types of Surgical Diathermy Electrodes and Handles, with brief description. We refer you to the works of Dr. E. P. Cumberbatch and Dr. Claude Saberton for more complete details.

The Electrodes are made of a hard alloy, heavily gold plated, and the Handles of hard rubber, highly polished.

List and Description of  
Surgical Diathermy Electrodes

No.	Code	Price
1300—Complete set Gold Plated Surgical Diathermy Electrodes, with protected Cord and rubber Handles, as illustrated, in plush lined leatherette-covered Case.....	<i>Macabe</i>	65.00
1301—Case, only, for set Surgical Diathermy Electrodes.....	<i>Macaco</i>	9.50
1302—Pharyngeal Electrode Handle.....	<i>Macard</i>	6.00
1303—Pharyngeal Electrode Holder.....	<i>Macaaw</i>	3.50
1304—Curved Handle.....	<i>Macduf</i>	5.25
1305—Straight Handle.....	<i>Machet</i>	4.75
1306—High Tension Cable—5' length.....	<i>Macerl</i>	3.00
1307—Single Needle Electrode (short).....	<i>Mackle</i>	1.25
1308—Single Needle Electrode (medium).....	<i>Macron</i>	1.75
1309—Single Needle Electrode (long).....	<i>Macula</i>	2.00
1310—Multiple Needle Electrode (short).....	<i>Madcap</i>	2.75
1311—Multiple Needle Electrode (long).....	<i>Madder</i>	3.75
1312—Knife Electrode (Cumberbatch).....	<i>Madera</i>	3.50
1313—Blunt Knife Electrode (curved).....	<i>Madona</i>	3.00
1314—Blunt Knife Electrode (straight).....	<i>Madras</i>	2.75
1315—Button Electrode (small).....	<i>Maffia</i>	1.35
1316—Button Electrode (medium).....	<i>Magian</i>	1.35
1317—Button Electrode (large).....	<i>Maguey</i>	1.35
1318—Disc Electrode— $\frac{1}{8}$ " diameter.....	<i>Mahout</i>	1.25
1319—Disc Electrode— $\frac{3}{16}$ " diameter.....	<i>Maigre</i>	1.25
1320—Disc Electrode— $\frac{1}{4}$ " diameter.....	<i>Mainor</i>	1.25
1321—Disc Electrode— $\frac{3}{8}$ " diameter.....	<i>Majuba</i>	1.35
1322—Disc Electrode— $\frac{1}{2}$ " diameter.....	<i>Malaga</i>	1.35
1323—Disc Electrode— $\frac{3}{4}$ " diameter.....	<i>Malice</i>	1.50
1324—Disc Electrode—1" diameter.....	<i>Malign</i>	1.75



### Wax Theromer—Electrically Heated Double Container

This is a specially designed and dependable apparatus for reducing Wax-like and Paraffine preparations to a liquid state by Heating, and for spraying the liquid thus formed.

It applies, most effectively, these preparations as a dressing for burns and all inflamed surfaces, to relieve pain and to form a protective covering which encourages the rapid growth of new tissue.



The Theromer is all metal, and has two containers; an inner one for holding the preparation, and an outer one forming a water jacket around the preparation. In the center of the inner section is mounted the Electrical Heating Unit, arranged that the wax passes through a small tube surrounded with the heating element; heating the wax at the proper point, just before it leaves the nozzle, and eliminating all danger of clogging at that latter point. This heating element is arranged to connect to the harmless low voltage Cautery Circuit on any of our Cabinets. The degree of heat is regulated in the same manner as a Cautery Knife.

No.	Code	Price
1584—Electrically Heated DeVilbiss Wax Spraying Theromer.....	Kolon	17.50

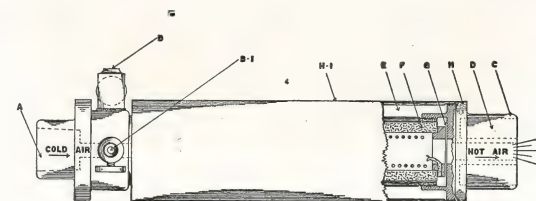
### Parresine Wax for No. 1584 Theromer Air Heater

The Parresine Wax combination made especially for use with the Spraying Theromers, contains Paraffin, Japan-Wax, Gum Elemi, purified Resins and Eucalyptol. These ingredients are submitted to very careful and prolonged mechanical processes, and the finished product has exactly the correct degree of ductility, adhesiveness and plasticity.

No.	Code	Price
1586—Parresine Wax in ½ pound cakes.....	Kobalt	.75

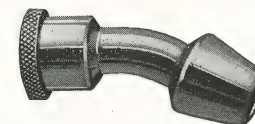
### Air Heater

For heating air to any temperature, from a mere sensation of warmth up to all that a patient can stand. Output is under perfect control as the energy is obtained from the Cautery Circuit, and any degree of heat may be maintained indefinitely. Should the heating unit become damaged from any cause, it is a simple matter to slip in another. Two heating units are supplied with each heater.



No.	Code	Price
1570—Fischer Air Heater, with extra unit.....	Acoin	5.50
1571—Fischer Air Heater Unit.....	Keck	.50

### Eustacheon Tube Opener



No.	Code	Price
1575—Metal Eustacheon Tube Opener.....	Kennel	.45

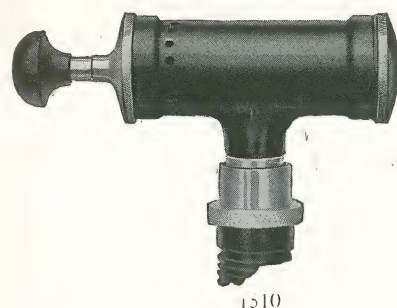


### Pneumatic Air Hammer Vibrator

While the ordinary Rubber Capped Vibratodes used with our Cabinets with the Compressed Air feature are very satisfactory for general massage purposes, many operators prefer a heavier, more penetrating stroke.

Our No. 1510 Percussion Air Hammer Vibrator was designed and built to deliver anything from a mere thrill to a long, very heavy stroke that cannot be stopped. Press as hard as you wish, and the piston will still operate.

Finished in black enamel and nickel plate. Arranged to screw on end of pressure handle, or if desired will be furnished complete with a Hard Rubber handle and pressure hose to attach to any source of compressed air. Degree of vibration controlled by air valve in handle.



1510



1512



1511



1513



1514

No.	Code	Price
1510—Air Hammer Vibrator.....	<i>Canker</i>	9.00
1511—Ball Applicator for No. 1510.....	<i>Canon</i>	.85
1512—Spine Applicator for No. 1510.....	<i>Canula</i>	1.25
1513—Curved Applicator for No. 1510.....	<i>Captul</i>	1.00
1514—Large Body Applicator for No. 1510.....	<i>Caput</i>	1.00

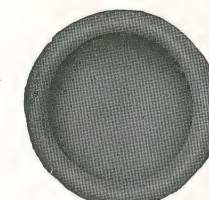
### Pneumatic Rubber Vibratodes



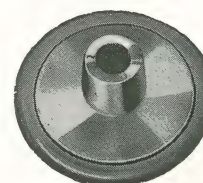
1550



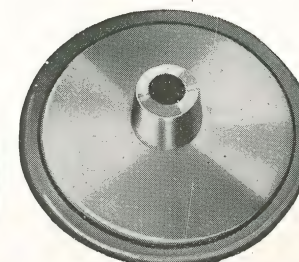
1550 R



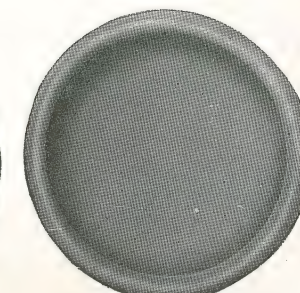
1551 R



1551



1552

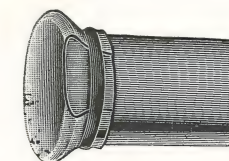


1552 R

No.	Code	Price
1550 —Small Size Vibratode, Rubber Holder.....	<i>Kation</i>	.30
1550R—Small Size Vibratode, Rubber Cap.....	<i>Kabul</i>	.12
1551 —Medium Size Vibratode, Metal Holder....	<i>Kadesh</i>	.60
1551R—Medium Size Vibratode, Rubber Cap.....	<i>Kaffir</i>	.30
1552 —Large Size Vibratode, Metal Holder.....	<i>Kago</i>	.75
1552R—Large Size Vibratode, Rubber Cap.....	<i>Karek</i>	.30

### Special Ear Vibratode

An ingenious device for the application of Vibration and variable Sound Tones simultaneously. Must be tried to be appreciated.



No.	Code	Price
1567—.....	<i>Souvib</i>	.75



## Cavity Vibratodes



1560



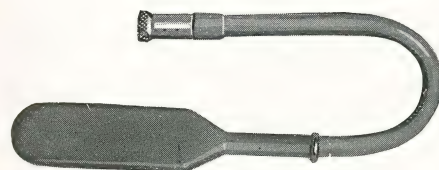
1560 A



1561



1561 A



1562

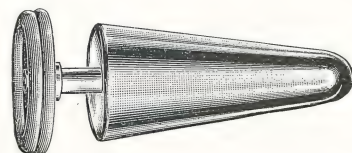


1562 A

No.	Code	Price
1560 —Vaginal Vibratode, Hard Rubber.....	<i>Kane</i>	.60
1560A—Vaginal Vibratode, Soft Rubber Cap.....	<i>Kaolin</i>	.35
1561 —Rectal Vibratode, Hard Rubber.....	<i>Karma</i>	.60
1561A—Rectal Vibratode, Soft Rubber Cap.....	<i>Karoo</i>	.10
1562 —Flexible Rubber Colon Catheter.....	<i>Kauri</i>	1.00
1562A—Dilating Bag for No. 1652 Catheter.....	<i>Keany</i>	.50

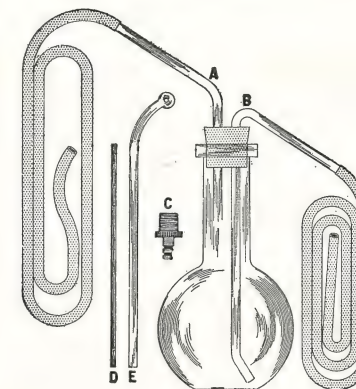
## Pennington Rectal Cone

The Pennington Rectal Cone adapted for use with the No. 1551 Vibratode as furnished with all Fischer-Thompson-Plaster Electrical Cabinets.



No.	Code	Price
1590—.....	<i>Penco</i>	2.00

## Suction Bottle

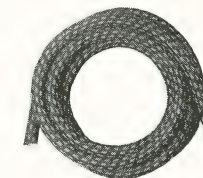


No.	Code	Price
1577—Suction Bottle, complete as illustrated.....	<i>Hepar</i>	3.50
1532—Extra Bottle only.....	<i>Hatch</i>	.60
1533—Rubber Hose, per foot.....	<i>Hauld</i>	.12
1534—Silver Catheter.....	<i>Haven</i>	1.00
1535—Glass Syphon.....	<i>Hawse</i>	.30

New Catheters can be furnished from stock; special or longer catheters to order only.

## Pressure Handle

Hard Rubber Handle, fitted with control valve, for use with Vibrator No. 1510 if you have no T. & P. Cabinet.



No.	Code	Price
1516—Pressure Handle with 6' Tubing.....	<i>Cyprus</i>	4.00

## Pressure Tubing

Extra Pressure and Vacuum Tubing, cotton covered any lengths.

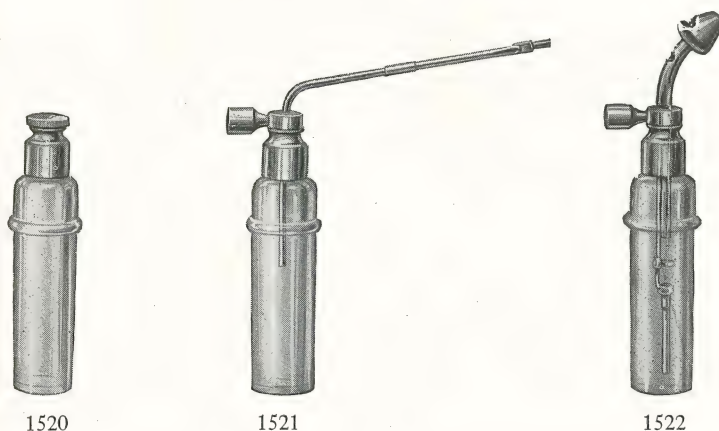
No.	Code	Price
1517—(Per Foot).....	<i>Cyanic</i>	.30



## De Vilbiss Atomers

An important feature of these Physicians' Atomers is that they can be operated with a hand bulb, or from the compressed air from the pump contained in all cabinets with the Thompson & Plaster features. They are made of all metal, and can be readily sterilized by boiling, or passing the spray point through a flame.

Numbers 1527-50, 1521-52, 1524-54, and 1525-56 are provided with an extra hard rubber tube for spraying corrosive solutions.



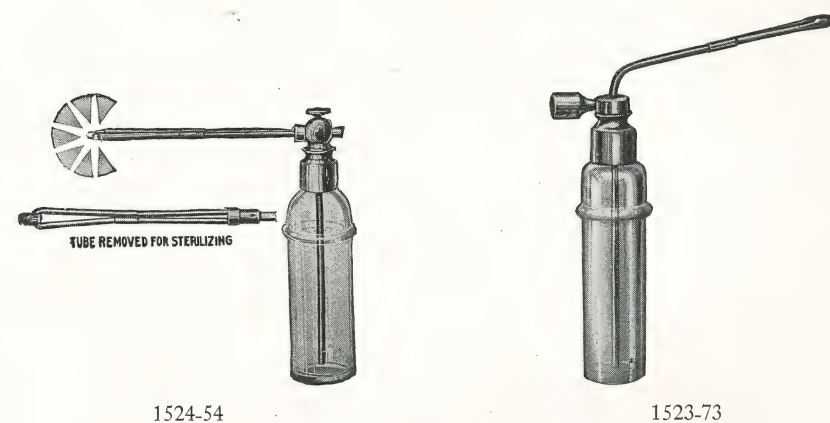
No.	Code	Price
1520—Empty Bottles only.....	<i>Kali</i>	.30
1521-52—Atomer.....	<i>Kalium</i>	1.70

Sprays any liquid, oil or aqueous, in any direction desired.

1522-80—Nebulizer.....	<i>Kamala</i>	1.70
------------------------	---------------	------

Produces a vapor; for Oils only. The vapor can be weakened by turning the little table to a horizontal position, or strengthened by turning it to a perpendicular position.

## De Vilbiss Atomers



Similar to No. 1521-52, but with the additional advantage of removable top. As the spray tube can readily be removed, additional tubes may be used, eliminating the necessity of stopping to sterilize between treatments, and also making possible the having of an individual spray tube for each patient.

This Atomer will spray in any direction laterally as well as vertically by simply loosening the set screw and turning the tip one-fourth way over. The spray tube can be readily detached for sterilization and others attached.

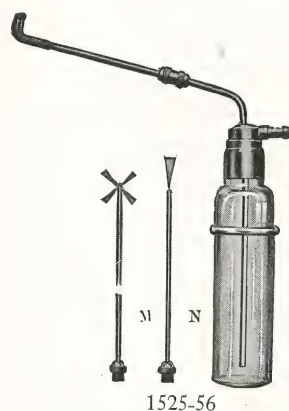
No.	Code	Price
1524-54—Atomer.....	<i>Kendal</i>	2.55
1537 —Extra Spray Tubes.....	<i>Kendex</i>	1.50
1523-73—Powder Blower.....	<i>Kalot</i>	1.70

Diffuses powder perfectly in any direction.

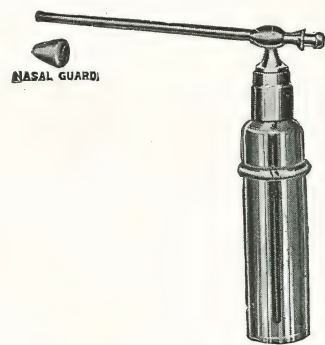


## De Vilbiss Atomers

No.	Code	Price
1525-56—Atomer.....	<i>Kassel</i>	2.80
For oils and aqueous solutions.		
1527-50—Atomer.....	<i>Kilter</i>	1.70
For spraying oils and aqueous solutions. It can be easily cleaned by unscrewing the heel-piece and wiping the tube.		



1525-56



Atomizer

1527-50

De Vilbiss—Thompson-Plaster  
Connector

Arranged to fit the tapered end of the pressure handle furnished with all Thompson & Plaster Cabinets, and to accommodate the regular DeVilbiss bottles.



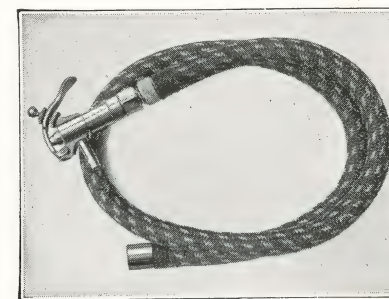
No.	Code	Price
1530—Metal Connector.....	<i>Karyon</i>	.40

*Note:*—The No. 1530 Adapter must be used with the De Vilbiss Bottles Nos. 1524-54, 1525-56 and 1527-50 for connecting to the pressure handle on the Fischer-Thompson-Plaster Cabinets.

## Special Cut-off

This Cut-Off is instantaneous in action. It is adjustable. No Rubber valves or washers to deteriorate or wear out, and will last indefinitely. Turn thumb nut "A" up to diminish, and down to increase, the flow of air. For a constant flow, turn thumb nut "B" down until the desired flow is obtained. Can be used to advantage in connection with Eye, Ear, Nose and Throat work, with any of our pump outfits.

Unless otherwise advised, the Cut-Off will be furnished with a short length of rubber tubing special metal attachment to fit over the end of our Pressure Handle, as indicated on illustration. Also furnished with our special "Y" Valve Attachment for side of cabinet, as indicated on page 104 under No. 1110.



1528-531

No.	Code	Price
1528-531—Special Cut-Off.....	<i>Kirtle</i>	3.50

## Exhaust Filter

For mounting between the cup holder and the vacuum handle proper. Stuffed with absorbent cotton, it prevents the passage of the extracted fluid to the pump.



No.	Code	Price
1504—Exhaust Filter.....	<i>Jefilt</i>	2.00



### Pressure Valve Attachment for Thompson-Plaster Cabinets

The operator finds the regular hard rubber pressure handle mounted on the Thompson-Plaster Cabinets a trifle large after the small DeVilbiss cut-off. We have, therefore, made up a special control valve which can be mounted on the side of any of our outfits with the regular pressure hose and control handle, and also an auxiliary hose and small DeVilbiss valve, enabling the operator to use either by simply turning the valve.

No.		Code	Price
1110	—Special "Y" Valve with DeVilbiss No. 1528-531 Cut-Off with 6' hose.....	<i>Ictus</i>	10.00
1111	—Pressure Valve only.....	<i>Igloo</i>	5.75
1528-531	—DeVilbiss Cut-Off only.....	<i>Kirtle</i>	3.50
1517	—Extra Pressure Hose, per foot.....	<i>Cyanic</i>	.30

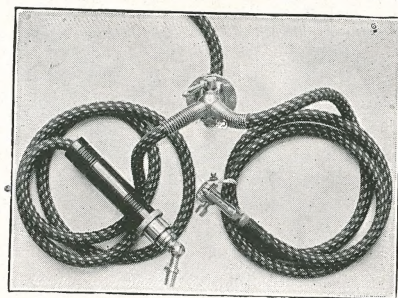


Illustration No. 1

The Regular Pressure Handle and 6-foot hose as shown in illustration No. 1, above, is not included with the regular No. 1110 Valve order, as these parts are already furnished with each of our cabinets.

### Vacuum Valve Arrangement for Thompson-Plaster Cabinets

For evacuating sinuses, it is necessary that the operator know at all times the extent of the vacuum used. We have therefore made up a special Vacuum Valve and Gauge which can be mounted on any Thompson-Plaster equipment.

Gauge is very accurate, and vacuum under positive control by means of the valve.

The Vacuum Handle and 6-foot tube, illustrated under No. 2, is not included with the regular No. 1113. As these parts are already furnished with each of our cabinets.

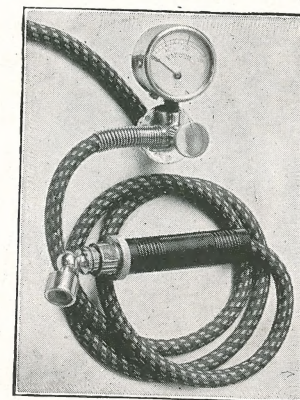


Illustration No. 2

No.		Code	Price
1113	—Vacuum Gauge and Regulating Valve with 30-inch hose.....	<i>Ides</i>	10.50
1114	—Vacuum Gauge only.....	<i>Idle</i>	3.50
1517	—Vacuum Hose, per foot.....	<i>Cyanic</i>	.30

### Sinus Suction Tube

A useful and practical device for aspirating the Nasal Sinuses by suction. The glass tip is made in two parts, accurately ground to fit, and is easy to clean. So constructed that it is impossible for the aspirated matter to enter the second bulb or tubing. Furnished with 4 ft. rubber tubing and a metal attachment to fit the Vacuum Handle supplied with our Cabinet Apparatus.

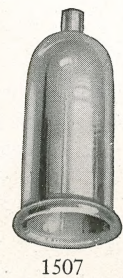
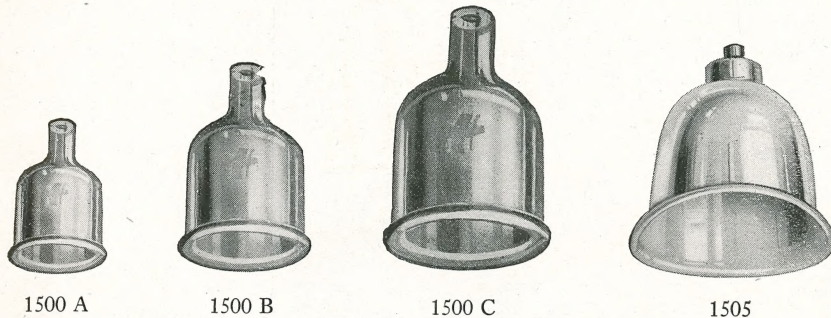


No.		Code	Price
1503	—.....	<i>Fesitu</i>	2.00

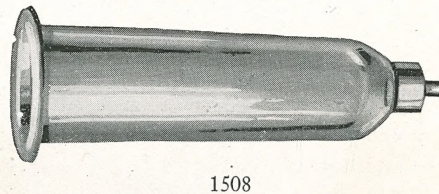


**Glass Exhaust Cups**

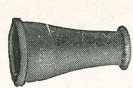
Made of smoothly finished, plain glass, with rim of heavier glass on the edges. The ends are fitted to the rubber bushing in the Vacuum Handle on all Fischer Cabinets containing the Thompson & Plaster Pump feature.



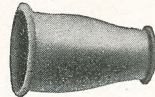
1507



1508



1507 R

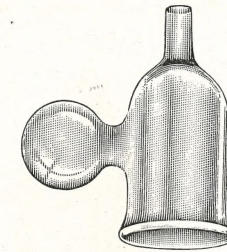


1508 R

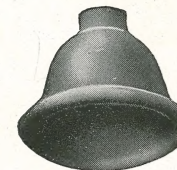
No.		Code	Price
1500A	Vacuum Cup, 1 " diameter.....	<i>Jeloy</i>	.30
1500B	Vacuum Cup, 1½" diameter.....	<i>Jervin</i>	.35
1500C	Vacuum Cup, 2 " diameter.....	<i>Jesuit</i>	.40
1505	Glass Breast Cup.....	<i>Jigger</i>	1.00
1507	Glass Panaris Cup.....	<i>Joint</i>	.60
1508	Glass G. U. Tube.....	<i>Joule</i>	1.35
1507R	Soft Rubber Panaris Casing.....	<i>Jolly</i>	.35
1508R	Soft Rubber G. U. Casing.....	<i>Jugal</i>	.35

**Special Exhaust Cup with Trap**

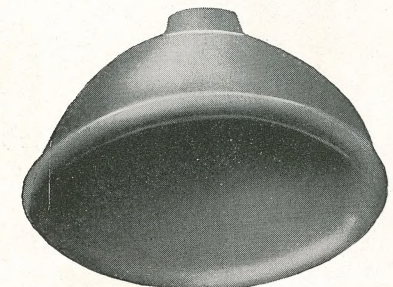
A special Vacuum Cup, 3 inches long with an opening 1½ inches in diameter.



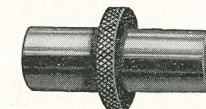
No.	Code	Price
1501—.....	<i>Jesty</i>	.85

**Rubber Vacuum Cups**

1555



1556



1573

No.	Code	Price
1555—Flexible Rubber Vacuum Cup.....	<i>Kale</i>	.45
1556—Flexible Rubber Cup (large).....	<i>Kandy</i>	.55
1573—Metal Attachment for connecting the Rubber Cups to the Vacuum Handle.....	<i>Kelpie</i>	.20



**Books Recommended by Us Covering the  
Foregoing Subjects**

No.	Code	Price
650 — Eberhart—High Frequency Manual.....	<i>Expert</i>	\$4.00
1702—Grover—Electro-Therapy.....	<i>Ingrov</i>	4.00
1703—Saberton—Diathermy.....	<i>Insabe</i>	2.25
1737—Cumberbatch—Diathermy.....	<i>Incumb</i>	6.00
1748—Grover—High Frequency Practice.....	<i>Match</i>	4.00



